

CLINICAL PSYCHOLOGY

UNDER THE EDITORSHIP
OF
GARDNER MURPHY

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CLINICAL PSYCHOLOGY

A Handbook of Children's Behavior Problems

BY

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WITH A FOREWORD BY

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CLINICAL PSYCHOLOGY

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The Three Hundred Rules of Ceremony could not control men's natures. The Three Thousand Rules of Punishment were not sufficient to put a stop to their treacherous villainies. But he who knows how to cleanse the current of a stream begins by clearing out its source. And he who would straighten the end of a process, must commence with making its beginning correct.

—TAOISI INSCRIPTION

FOREWORD

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IN our modern civilization, otherwise so much concerned with industry and machines, one of the outstanding phenomena has been the growing interest in the welfare of children. The child has come to occupy an increasingly important place in the home and the community at large. Interest in education has increased and educational facilities have been greatly improved. There has been more and more concern about the proper care and training of children, and greatly increased attention to their proper feeding and medical care.

With all this there has of course been no lack of interest in the psychological development of these same children. An increasing recognition of psychological and behavior disorders in children has been manifested. This recognition is partly due to the more general realization that certain undesirable traits are an indication of psychological maladjustments, that this behavior might have been prevented, and that it may be possible to correct it. What we now call a disorder was formerly simply accepted as a part of the individual's personality which was inherent and about which nothing could or need be done. A certain amount of what may be regarded as imperfect behavior has always been present in children; with greater knowledge, more attention is being paid to it so that part of the increase in interest is more apparent than real. In addition, there are many factors in our social organization which introduce, more or less inevitably, circumstances in the child's training and surroundings which are apt to lead to difficulties in adjustment. This has resulted in a real increase in the number and severity of the psychological maladjustments of children. Since it is extremely unlikely that these social and economic factors will be soon corrected we may expect that, unless adequate prophylac

tic procedures are learned and carried out, this increase in behavior difficulty will continue

This book is a presentation of the present state of our knowledge of the psychological development and behavior disorders of children. It was written by a practicing clinical psychologist whose experience has embraced university teaching, research and work with patients referred to him from a large children's hospital, from private practice, and from schools. His training and point of view are those of a psychologist, but he has had what we as physicians are pleased to call the benefit of considerable contact with members of the medical profession whose principal interest is in the disorders of childhood. The proper care of children with personality, developmental or behavior disorders must usually be a cooperative undertaking involving members of several different professions, and the necessity for this cooperation is stressed throughout the book.

The common types of psychological disorder are described and the genesis of these disorders is outlined. The principles underlying the treatment and handling of these patients are discussed, and many actual cases are set forth. The importance of an individual approach to each patient, with all possible information at hand, is emphasized. Particular stress is laid upon the necessity for considering the patient as a whole, with all his family, neighborhood and school background, along with his physical condition. No short cuts are suggested, no new theories are advanced, and no fads are advocated. The vital importance of common sense in dealing with these troubled people is clearly brought out, and much common sense has entered into the writing of the book.

This book is intended as a textbook for students of clinical psychology. Some medical terms have of course been necessary, but fluency in medical terminology is by no means necessary for reading it. For the sake of completeness accounts of some strictly medical conditions have been included. These are not, and are not intended to be, technical, they are inserted simply to provide the student with some knowledge of physical conditions which are rather frequently present in patients seen by a clinical psychologist.

Because of their opportunities for observation and intimate knowledge of the family background, the family physicians and pediatricians are in a strategic position to recognize many of these behavior disorders in their incipency, before the untrained associates of the child

realize that the reactions are in any way undesirable. An enlightened medical profession can do much to prevent the development of these disorders and to handle them in the proper fashion once they have appeared. Many cases, however, require specialized techniques involving an amount of time and experience which are not possessed by the ordinary physician; and for the proper care of these patients there is a real need for trained psychiatrists and clinical psychologists who are abundantly endowed with common sense and wisdom.

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PREFACE

SEVERAL YEARS ago the writer was confronted with the task of developing a didactic course which would be a broad survey of that field of applied psychology known as "clinical." The delimitations of this field were, and are, vague. Workers who call themselves, or who are called by their colleagues, clinical psychologists are engaged in all sorts of activities from the devising of mental tests to therapeutic procedures but little short of outright psychoanalysis; they deal with individuals ranging from the newborn baby to the aged infirm, they are concerned with problems of child training, educational adjustment, delinquency and crime, mental deficiency, mental abnormality, dependency, vocational guidance and a host of subdivisions and overlapping areas. This confusion is reflected in available textbooks. Of books purporting to deal in a comprehensive way with the entire field there is no single one that is not deeply tinted with the professional bias of its author. Quite evidently this cannot be entirely avoided, nor would it be desirable. Specialized books on segments of the field there are in great number. The monographic and journal literature is literally vast. Yet an attempt to organize the widespread materials into a somewhat systematic presentation has thus far been entirely lacking. It is an attempt to meet this need that the present book has been written.

One important thesis upon which the book is based is that the field known as clinical psychology is not, and cannot be, limited only to psychology as its basic science. Rather the work of the clinical psychologist is intimately bound up with at least four major fields, viz., psychology, medicine, education, and sociology. Each of these has a very necessary contribution to the practical working of the psychological clinic. Unfortunately, there is at present no academic curriculum anywhere available which embodies desirable minima of training in each of these fields. If the clinical psychologist is ever to attain a socially recognized professional status some modification of training in the direction suggested will be inevitable.

In the present book there is a definite limitation of interest to the behavioral problems of children. This reflects the author's bias, but

it also is a logical delimitation in the light of diagnostic and corrective technics at present available. There is abundant evidence that the reactional biography of the child is the foundation of adult behavior. "And," to quote from an inscription on a Taoist temple in the town of Lao-Tze's birth, "he who would straighten the end of a process must commence with making its beginning correct."

It will soon be evident to the reader that I am in debt to many experimentalists and clinicians. In the only way that I can, I wish to acknowledge my gratitude to the many people who have indirectly contributed to this book. Clinical case material has been drawn from the published works of others as well as from my own clinics located at the University in Bloomington, and at the James Whitcomb Riley Hospital for Children in Indianapolis. For case material which did not originate in our clinics I am grateful to the authors and publishers who have been generous with their permission to reprint.

The following have granted permission to use the indicated figures: C. H. Stoelting Co. (Figs. 2, 4, 5, 6, 7), Narragansett Machine Co. (Figs. 1, 3), E. A. Doll (Fig. 8); Massachusetts Society for Mental Hygiene (Fig. 10); D. C. Heath & Co. (Figs. 12, 13); Better Vision Institute, Inc. (Fig. 17); Westinghouse Lamp Co. (Fig. 19); and the National Society for the Prevention of Blindness (Fig. 20). The following publishers have granted permission to reprint material from works published by them: The Macmillan Company, D. Appleton-Century Co., W. B. Saunders Co., University of Minnesota Press, University of Chicago Press, Houghton Mifflin Company, Clark University Press, and the National Society for the Study of Education.

While all of my colleagues have been generous in their cooperation I feel there are several who should be specifically mentioned. Dr. E. W. Dyar, of the Department of Ophthalmology, read and made valuable criticisms of the section on visual defects, Dr. W. W. Wright, School of Education, read Chapter VI; Dr. E. S. Conklin, Chairman of the Department of Psychology, read several portions of the manuscript, W. A. Livingston, D. R. Craig, J. W. Carter, Jr., and Miss G. A. Davis have all been of invaluable assistance. To Dr. L. T. Meiks I am indebted not only for his interest in my book, but also for his freely given advice and cooperation which has made our work at the James Whitcomb Riley Hospital so pleasant.

C. M. LOUTTIT

Bloomington, Ind.
April, 1936

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PART I

METHODS

Chapter I

INTRODUCTION

No one would question that clinical psychology is a field of application of psychological methods and data. But in practice the problems confronting the clinical psychologist can seldom be solved by psychology alone. This is, however, not a circumstance peculiar to this field of endeavor. For example, we find physics and chemistry being used in engineering affairs, astronomy in navigation, physiology and anatomy in medicine and surgery; biology in agriculture. These sciences are usually considered basic to respective fields of application, but seldom is one science alone so used. Agriculture uses not only the factual material of biology, but also certain phases of geology, mineralogy and chemistry; medicine, while primarily applied physiology, utilizes chemistry, pharmacology, physics, biology and occasionally psychology.

This circumstance is also true in the various fields of application of psychology. Recently Miss Wembidge (1932-33) has said ". . . if we do not look out, the other sciences will have absorbed all that is vital in psychological method and psychology proper will be left with nothing on its hands but sterile pedantry and wordy debates." This gloomy prediction apparently comes from the fact that the critic finds it necessary to draw from other fields—psychiatry, sociology and education, among others—for materials to aid in solving the problems presented by juvenile delinquents. The absurdity of such a statement is, of course, obvious. This critic is asking that one field of science afford all the data necessary to solve the problems presented in the whole complex of human behavior. A consideration of the history of science and its application would hardly warrant such expectations.

DEFINITION

There have been many proposed definitions of clinical psychology, but disagreement among them has been the most constant characteristic. In an attempt to crystallize the many opinions a committee

of the Clinical Section of the American Psychological Association (1935) secured statements from a number of the more prominent psychologists whose work was generally recognized as being clinical in nature. From these materials the committee formulated the following definition: "Clinical psychology is a form of applied psychology which aims to define the behavior capacities and behavior characteristics of an individual through methods of measurement, analysis, and observation; and which, on the basis of an integration of these findings with data secured from the physical examinations and social histories, gives suggestions and recommendations for the proper adjustment of that individual."

There would probably be little disagreement with the field of endeavor as thus defined. There is, however, objection from some psychologists and from people outside of the field, to the use of the word "clinical." This qualifying adjective comes from the Greek *κλινικος*—of, or pertaining to, a bed—and by extension is used for study of the individual as individual. The Subcommittee on Psychology and Psychiatry of the White House Conference on Child Health and Protection (1932a)¹ felt that this use of the word clinical is unfortunate because it implies a medical procedure or outlook. There would seem to be little validity in such an objection. In the narrower sense of referring to a bed the word has an established ecclesiastical usage. The broader connotations are with a method not necessarily limited to medicine. The method referred to is the examination and treatment of the patient as an individual, on the basis of his own symptoms, and not from the point of view that this patient is a good, fair, or poor example of a condition described in the currently accepted textbook. According to this interpretation, the minister, the social worker, even the banker may truly be said to be using a clinical method when

¹This Subcommittee on Psychology and Psychiatry was organized under the chairmanship of Dr. Bronson Crothers as one of the groups working with the Committee on Medical Care for Children, of Section I, Medical Service, of the White House Conference on Child Health and Protection. The report quoted is a careful consideration of the relations of psychiatry and psychology to pediatrics. As only one member of the Subcommittee was not a physician (Dr. J. E. Anderson, a psychologist), it is to be expected that the claims of the physician should loom large. However, this is not a serious matter. The position taken, that the family doctor is closest to the family, and comes first into contact with the problems of the children, is well taken. While it would appear that the Subcommittee would desire all physicians to acquire some specialized training in psychology, they do not appear to feel that the psychologist might get a similar amount of medical training and do the job as well.

they attempt to aid an individual client. The physician's use of certain types of symptoms in interpretation and certain sorts of treatment methods, gives him no unique claim on the clinical method.

AIMS AND METHODS

From this discussion the fundamental aim is apparent. Above all, the *raison d'être* of the art is the satisfactory adjustment, or perhaps rather the readjustment, of the individual to an environment. Although there is no reason why the clinical psychologist may not study normal individuals—and he sometimes does—his usual material is the person who at the moment is maladjusted. In some cases the adjustment cannot be to the existing environment, therefore we have said to “an environment.” Thus a child's serious behavior difficulties in school may be intimately bound up with the teacher's attitude toward him. In such a case his adjustment would be facilitated by changing his school. Similarly, it may be necessary to change homes, to put defectives in the simpler environment of an institution, and so on.

To readjust the individual properly requires a number of related tasks. In general, they may be divided into two groups. The first of these is concerned with determining the present condition of the person, the possible causes of this condition, and the way in which it is affecting the person's activity in relation to those about him. This phase of the work is included in the *diagnosis*.

A diagnosis having been made, it is the duty of the psychoclinician to make a prognosis or prediction of the patient's future conduct. Furthermore, this prognosis must include recommendations for treatment that will bring about the most satisfactory solution of the problem. In effect this means that a mere prediction of possible future conduct is of less value than one which is qualified by a recommendation that if certain changes in the person's conditions of living are made, the outcome might be more satisfactory.

Diagnosis—The first task that confronts the psychoclinician is to determine as exactly as possible the nature and causes of behavior which the patient exhibits. Traditionally, a large share of psychoclinical work has made this determination in terms of the degree of intelligence or mental² ability that the subject exhibits. That this one factor in

² The use of the term “mental” does not commit the author to any theoretical position. It is possible to write this book without using the term, but by so doing

human personality is not of unique importance has, of course, been recognized from an early date—especially in psychiatry. In 1924 Florence Mateer formulated a concept of a qualitative aspect of intelligence to be used in addition to the quantitative aspect. Intelligence, at any level, Dr. Mateer points out, may function “efficiently, inefficiently, peculiarly, disastrously, or unpredictably, because of such difference of quality” Without considering Mateer’s argument further at this time, we can say that to a rather great extent this qualitative aspect is dependent upon environmental experiences of the individual.

Thus we have as the problem of diagnosis both the determination of abilities, i.e., skills, achievement, special talents, as well as so-called general intelligence, and also the way in which these abilities are used in the individual’s adaptation to his social environment. Such adaptation is, of course, always in terms of some sort of behavior, whether it is in school, in play, in home adjustments, in obedience to parental or legal authority, in social skills, or what not

Logically the first step in making a diagnosis is the determination of the individual’s behavior at the moment. That is usually, but not always, the thing for which he has been referred to the clinic. That the reason for reference is not always the whole story is shown in data published by Tilson (1929). In a survey of seven pre-school clinics, she found 903 problems that had been treated. Of these, 249 had been referred to the clinics and 654 were discovered by them. The clinician must get an adequate description of behavior; this will require reports of actions observed at the time of examination, as well as such reports from the parents, teachers, social workers, and others who have contact with the child

The examiners’ observation of behavior is perhaps most easily secured during the period of giving tests of various sorts. In such situations behavior may be elicited that would not be secured in a merely conversational interview. The tests used will vary with the completeness of the measure of performance desired. Usually it is advisable to give several tests of different types merely for the purpose of observing behavior, although the scores will not be required. A quanti-

circumlocutions in terminology would be necessary. Such a course would serve no useful purpose except a superficial theoretical consistency, and at the same time it would limit the practical usefulness of the book as a text. For a consistent system of psychology which does not recognize the validity of the mind-body dichotomy either directly or by implication the reader is referred to the works of J. R. Kantor (1926-1928, 1933)

tative measure of intelligence is not the only value to be secured in testing

As the examiner's opportunity to observe the child is limited, it is necessary to secure behavior pictures from parents, teachers, and others. In addition to such reports, the history is important in giving possible clues to etiology. The aspects of the subject's life included in this history are many—family, birth, early development, medical and physical condition, socio-economic conditions, and the like.

Treatment—When a diagnosis has been established it is incumbent upon the psychoclinician to take some steps toward correction of the condition, or to fit the individual into a social group.¹ This last is the more important point of view because human behavior is usually judged in terms of social approval. But just because this is true, it is usually quite impossible for the clinician actually to carry out the treatment.

A boy is referred to a clinic by the judge of a juvenile court. He has been arrested for stealing from a grocery store, and from the history one finds that he has been in many such escapades. Furthermore, he is always with a gang when the law-breaking occurs. On examination it is found that he has an intellectual defect sufficient to class him as a high-grade moron, or at best as border line. His father is dead and the mother endeavors to support herself, this boy, and two other children by scrubbing floors. She is away from home most of the time. The important factors in this situation are probably the broken home with the remaining parent away from home a good deal of the time, the mentally deficient son who may be easily led, and the fact of his association with a gang. Some change in his environment is indicated, but the clinician can only recommend this. It can hardly be expected that he should carry out the recommendation. There are agencies already in existence with the necessary machinery to do this sort of thing. It is to them he must turn for help, although he continues supervision of the boy's activities.

Here lies one of the greatest distinctions between the physician and the psychoclinician. The former carries out his therapeutic procedures—medication or minor surgery—himself; the latter, because of the very nature of his problems, must depend in most cases upon the services of other agencies, e.g., foster homes, institutions for defectives and delinquents, social service, and child-placing agencies. In the smaller proportion of patients seen by the physician in general practice, the

latter depends on the expert in surgery, the medical specialties, or even on social service agencies to carry out the necessary corrective measures. Contrariwise, the smaller proportion of cases seen by the psycho-clinician may be of a nature that he can help himself. The need is more often for advice from the clinical psychologist, and perhaps supervision of the application of the advice, not for the actual carrying out of procedure by the clinician.

DELIMITATIONS

For discussion at the 1934 meetings of the Clinical Section, American Psychological Association, Dr. E. A. Doll suggested the following fields in which clinical psychology and its methods might be used: (a) educational classification in the public schools, (b) remedial education or diagnostic teaching, (c) educational guidance, (d) vocational guidance, (e) occupational selection and adjustment, (f) child guidance, (g) mental hygiene, (h) mental deficiency, (i) crime and delinquency, (j) insanity and mental abnormality, (k) social welfare (dependents, such as orphans, the aged and infirm, and those receiving charitable relief). While this list is not intended to be exhaustive or logically classified, it does exhibit many of the ways in which clinical psychology as defined above may make definite contributions. For our purposes this list is too extensive. We shall therefore attempt to delimit the sections of the total possible field that we are to discuss in this text.

In the first place, we have already said that our concern is with individuals and not with groups. In their total aspects educational classifications, remedial education, and occupational selection are more usually concerned with groups. That is, the school administrator or the employment manager is first of all interested in dividing a large number of individuals into classes that may then be more easily dealt with. This may be done most economically by means of group tests of various sorts, the results of which are treated statistically and the groups divided without concern for the specific needs of each individual. In certain situations the clinical psychologist may be called upon to administer and analyze such group tests, but when so doing he is not engaged in clinical activity. Of course, once such a crude classification is made, he may make further clinical study of certain individuals to the end of finer and more satisfactory classification.

Secondly, there seem to the present author to be very good reasons

for emphasizing children's problems. Considering the diagnostic and therapeutic methods available, the clinical psychologist can perhaps most profitably work with children, and with that section of the adult population whose abilities and behavior place them in a childlike group. It is true that some clinical psychologists undertake work with adults who are maladjusted, and if such workers have sufficient training and experience there is no reason why they should not do so. However, it may well be questioned if one person can be equally skilled in dealing with both children and adults, as the problems are quite different. One of the author's students formulated a point of view that clinical psychology "is found wherever a person is making an application of psychological fact and theory to human guidance and adjustment." This is obviously too broad. Carried to its logical ultimate it would necessarily include advertising men, salesmen, doctors, lawyers, ministers, and a host of others. For practical purposes there must be some limit to the field, and in this text we propose childhood and adolescence.

Thirdly, cases primarily organic in nature must be excluded. The correction of physical defects, chronic or acute, is the task of the physician; the clinical psychologist has plenty to do without invading this field. Of course, the person trained both as a psychoclinician and as a physician might properly undertake both kinds of work. Such training is highly desirable in any case. Although the psychologist should not attempt diagnosis or carry out therapeutic measures concerned with physical disabilities, nevertheless he should be alert to the importance of such disabilities in the etiology of behavior difficulties. In such cases the assistance of the medical profession must be sought. It is of further importance to point out that the converse of this statement is also true. Without the necessary training in psychology, the physician should not take upon himself the privilege of diagnosing and treating behavioral difficulties having no organic bases.

We entirely agree with the White House Conference Subcommittee (1932a) when they say, "This Subcommittee believes that the study of an individual distress is the logical concern of the doctor. Those of us who are responsible for 'child guidance' are obviously going to become involved with fields of effort where our status is not clear. Education and psychology are sciences or 'disciplines' with definite traditions and techniques. When doctors enter these fields they have

no right to attempt to lead or to dictate simply because their prestige as physicians gives them an advantage. The attempt to carry prestige beyond the field where it was earned is the cause of most of the confusion which exists. Doctors are flagrant offenders, psychologists have not been guiltless and teachers and the clergy have furnished their share of examples."

ORIENTATION

The work of the clinical psychologist overlaps that of a number of other professions at several points. As in all sciences or arts, the boundary lines are seldom well defined. Therefore, it may be useful to suggest some differences between clinical psychology and some of the boundary disciplines.

Education—The course of development of clinical psychology has been very closely joined to school problems. To judge from the reports that have issued from it, Wimmer's first clinic, established in 1896 at the University of Pennsylvania, was greatly concerned with the adaptation of children to the school situation. Many of the clinics that have operated in the past quarter century have been connected with schools. This has tended to make many believe that clinical psychology is another of the frills of modern education. This is, of course, far from the truth. That the clinic can and does help the school in the problems of child adjustment is now widely accepted, but to limit its work to these problems is to destroy much of its value.

Pediatrics—As clinical psychology is perhaps more definitely concerned with children, it is more closely related to this section of internal medicine than to any other. Inasmuch as many behavior problems may be caused or complicated by organic disease or defect, it is necessary that the psychoclinician utilize the knowledge and skill of the pediatrician. On the other hand, in so far as the problem is not of an organic nature, the pediatrician will profit by the special abilities of the psychologists.

To quote again from the Subcommittee's report, "The *technical resources* of *psychiatry* and *psychology* are, in our judgment, far more specialized matters. We can trust intelligent and interested doctors to use the attitudes of psychiatry beneficently. We are less agreed as to the value of the more technical resources in the hands of the general practitioner. Obviously, there are details of physical examination, methods of testing intelligence and so on which are reliable only

when performed and interpreted by specially trained individuals." This appears to sum up succinctly the feeling of this Subcommittee. They suggest more opportunity for the general practitioner to learn the technics of dealing with the behavioral difficulties not connected with organic defects, and, in addition, recognition that specialists trained in certain fields may be helpful.

Psychiatry—Historically, psychiatry has grown up in relation to the medical care and handling of the insane—those people with well-defined psychoses. It is only recently that it has concerned itself with the milder everyday abnormalities of human kind. Two points of view concerning mental abnormalities are to be found in modern psychiatry. The first is directed toward the organic—anatomical or physiological—bases of psychoses, psychoneuroses, or simpler behavior difficulties. The second trend is dynamic; mental and behavioral disorders are to be attributed in great measure to emotional and instinctive conflicts. Obviously this dynamic viewpoint is essentially psychological, yet historically it was emphasized in the field of human adjustment by psychiatrists. Dynamic psychiatry has been very important in the movement called "child guidance." This field is practically coincident with that which we have defined and delimited as "clinical psychology." The difference is historical rather than practical. Psychiatric interest in child guidance has largely arisen since the beginning of the movement in mental hygiene.

Mental hygiene is essentially the preventive aspect of psychiatry. In this light it will have a good deal to contribute to the work of the clinical psychologist. The difference between the two fields would seem to lie in the matter of prevention. Clinical psychology deals with conditions already existing in the child and attempts to correct them. Mental hygiene would concern itself with problems of training and development to prevent the occurrence of maladjustments. They are one discipline when they are concerned with the changes necessary in the child to prevent his developing serious psychoses, psychoneuroses, delinquencies, or other maladjustments.

Social Work—There is apt to be little confusion between the two fields in this case. However, it is well to point out that family and children's work can profit from advice of the clinical psychologist. Conversely, without the specialized services which this profession can supply, the psychologist is often at a loss in having his recommendations carried out.

Chapter II

DIAGNOSTIC METHODS ANAMNESIS AND EXAMINATION

THE object of any examination method is to secure as complete a picture of the child as is necessary to understand and deal with his problem. When a ten-year-old breaks his leg there is no necessity for the doctor to inquire about the age at which he walked, or his grandparents, or his grade in school, or about any other such items. If another child is obviously ill but the diagnosis is not clear the doctor may ask sufficient questions regarding the recent past to establish a possible source of infection. In the case of behavior difficulties inquiry into the child's past history, his present living conditions, his performance ability, his repertoire of skills and habits is usually necessary in order to come to a conclusion regarding the nature and etiology of his present problem. The directions that such inquiry may take will be discussed in some detail in this and the following chapter.

The factors of importance to be secured in the examination of the child may be conveniently classified as follows:

A. Personal history

a. Present

1. Description of behavior
2. Physical condition
3. Performance ability and achievement
4. Living conditions

b. Past

1. Birth and infancy
2. Health
3. Education
4. Other experiences and activities

B. Family history

1. Parents
2. Siblings

3. Grandparents
4. Collaterals (aunts, uncles, cousins, etc)

This very condensed outline indicates only broad categories into which information regarding the child may be classed. How detailed the information secured for each of the classes will be is determined by several factors, e.g., time available, availability and dependability of sources of information, need for information in establishing a diagnosis and outlining treatment, etc. Our discussion will elaborate this outline in some detail but with no idea that all possible information is necessary for every case. Thus, idiocy may be diagnosed on the basis of a behavior description, with test results to determine degree, and perhaps some medical examination and history if it is desired to establish a cause. On the other hand, subtle personality and conduct disorders may require information in excess of that which we shall discuss. It will be well to warn the reader now that the description of various phases of the child's history or the various tests which follow need not, and should not, limit the examiner. Within limits, the more information one can secure about the child the better will be his understanding of the problem. Therefore, discursive accounts of behavior, of members of the family and their attitudes, or other persons who have contact with the patient, etc., should always be secured where possible even though these are not here dealt with in any specific way.

A. PERSONAL HISTORY

a. PRESENT PERSONAL HISTORY

1. *Description of Behavior*

When a child is referred to a clinic, a parent, teacher, social worker, or some other older person will usually come with him, or at least they will send certain information. The inevitable and most necessary first question asked by the examiner will be of the nature, "What is the trouble?" "Why do you bring the child here?" "What is your complaint?" or something similar. The answer to such questions is a statement of the problem *as the referent sees it*. Regardless of how inadequate they may be, such statements should always be recorded.

Often this statement of the problem by the referent may be inadequate, inaccurate, or even intentionally misleading. This requires that the examiner secure corroborative evidence by further detailed ques-

tioning of the informant, or from other sources. If the informant is a parent who claims the child is incorrigible, ask for specific statements of what the parent considers misbehavior. It is not unknown for a mother to be quite concerned because her seven-year-old boy does not wash his hands before sitting down to a meal. On the other hand, the author has talked to a mother who was apparently unconcerned that her boy had been in juvenile court four times. A mother brings her twelve-year-old boy to the clinic, and to her the problem is succinctly, but totally, summed up in the statement, "I can't do nothing with him." For her this is a problem, but it is of little value to the clinician. A more definite and extensive account of his behavior is necessary. Detailed description of behavior from parents, teachers, and others who know the child helps the clinician form a more adequate conception of the child's real problem. For example, a boy was referred because he had been stealing for some time. The history of these escapades showed that he stole only money, which was spent always for amusement, candy, or the like. This history, interpreted in the light of other facts, e.g., the boy was an orphan living in the home of a poor uncle, suggested that the stealing was primarily a means of fulfilling what the boy felt were real needs.

Of course, the amount of detailed history of behavior to be secured must be governed by the case and the problem. A brief description of the play activity of an imbecile may be sufficient, while an extensive account of behavior in several situations, and the attitudes toward different persons, places, or objects may afford only an introduction to the problem of inferiority feeling.

One source of information that should never be neglected is the child. His story told to sympathetic ears may throw light in many dark corners. But one need not expect a clear, full confession from a child, nor is confession as such desirable. The child is already in difficulty and he is not going to be too ready to tell a full, truthful story to the examiner just because he asks for it. Too often the examination and the examiner's attitude may be such that the child sees the situation as only another way of making life more unpleasant. Hartwell (1931) has clearly described his excellent clinical approach to the individual child, and his book will well repay careful study.

While the examiner's contact with a child may be limited to a single interview of an hour, he should carefully observe the child's behavior during that time. How the child entered the room, how he

greeted the examiner, how well he cooperated in the questions asked and problems set, his attitude toward the whole matter of being examined, the effect of parents or strangers being present, and many other aspects of his behavior may serve as interpretative cues to the problem.

As far as possible, all reports by parents, teachers, other persons and the child should be recorded. It is seldom possible to do this verbatim, and especially with the child's own story it may not be possible to write it down while he is telling it. But as soon after an interview as possible a full account should be written out. If such records are left a day, a week, or longer, the possibilities of errors creeping in are considerably greater. For safety, all interviews and the reports of such interviews should be dated independently.

By the very nature of the information to be recorded it is impossible to provide rubrics that will fit even the majority of cases. Desirable information might include any or all of the following: description of objectionable behavior or attitudes, detailed account of the immediate problem, reactions of various persons to the child, the child's reactions to other persons, his characteristic traits of personality and character, and so on.

2. Physical Condition

The child's health and present physical condition are, of course, of the greatest importance in his behavior. Malnourishment, sensory defects, crippling deformities, infections, neurological defects, endocrinopathies, cardiac conditions, or any other unhealthy, abnormal physical status may play a significant part in the genesis of behavioral difficulties. For this reason, every child referred to a psychological clinic should have an adequate physical examination.

Just what constitutes an adequate physical examination cannot be dogmatically stated. A thorough pediatric examination is desirable in all cases. Neurological, ophthalmological, otological, endocrinological, orthopedic, or other special clinical examinations, as well as more or less extensive laboratory tests, should be made when indicated. From the psychologist's point of view, the necessary degree of completeness of the physical examination must be left to the judgment of the physician. One of the most satisfactory summaries of the physical examination desirable for children exhibiting behavior problems has been published by Brown and Potter (1930). They list and discuss

the following as desirable: anthropometry, constitutional and endocrinologic make-up, vision, audition, mouth and nasopharynx, respiratory system, cardiovascular system, abdomen and genito-urinary system, glands, nervous system. We cannot emphasize too strongly that the psychologist, unless he is also a physician, should not undertake a physical examination, nor should he neglect the possibility of a physical etiology. The psychoclinician should be alert to signs in the child that might even barely suggest the need for medical attention.

While we cannot describe methods of physical examination in general because it would take us too far afield, we shall mention some anthropometric measures that can be made in the psychological clinic.

Height and Weight—These measurements should be made on every child. Platform scales with stadiometer attached are most convenient, but separate instruments will serve. A simple stadiometer may be made by marking off a scale on a convenient wall against which the child can stand, and the height may be secured by holding a right-angle block of wood against the wall and pressing firmly on the child's head. A stadiometer such as that in Figure 1 is a standard instrument for securing both standing and sitting height. Measurement may be made in either English or metric units, but it is convenient to have scales and measuring rods marked with both. English units are more commonly used in height and weight measurements.

Weight is usually taken with clothing, excluding heavy winter coats, outdoor clothes, and shoes. More accurate measurements are of course secured without clothing, although the most widely used height-weight norms shown in Table I are based upon children with clothing.¹ Children more than 7 per cent underweight or 20 per cent overweight should be referred for medical attention. These percentages represent the generally accepted boundaries of normal height for weight. (Richardson, 1927)

Standing height is taken preferably without shoes; if shoes are worn a correction may be made for the height of the heels. In measuring standing height the child should stand erect with heels together, touching the stadiometer rod at the shoulder level, the head up and lightly touching the rod, and the axis of vision horizontal. The measuring block should be pressed firmly against the head. *Sitting height* is secured in the same manner, except that the child sits erect and the

¹ Extensive height-weight tables for children under 6 years of age, based on the measurements of 172,000 children, have been published by Woodbury (1921).

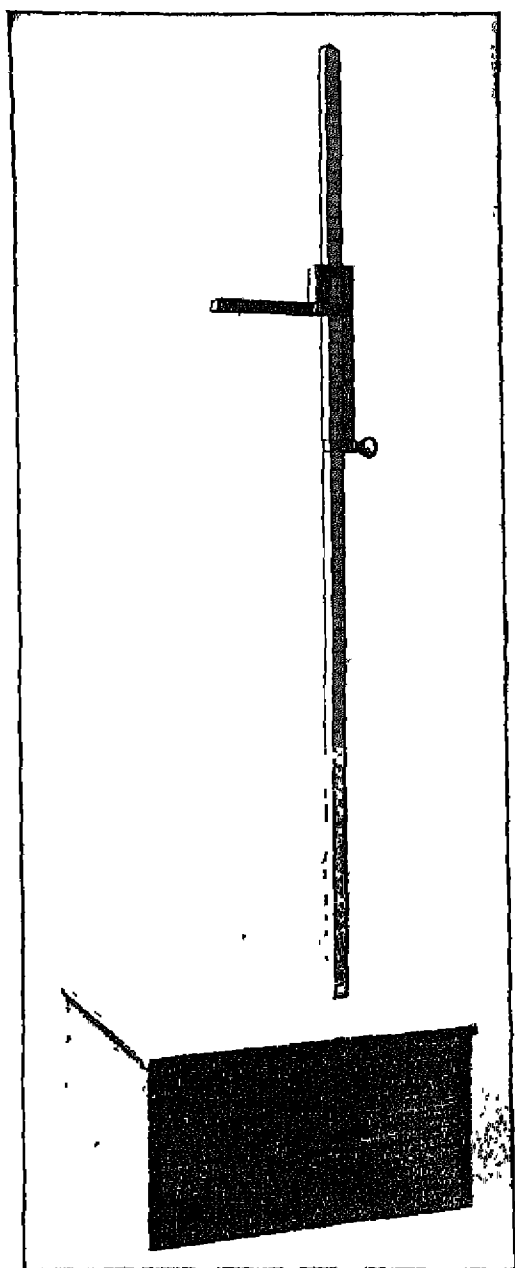


Figure 1 Stadiometer (Courtesy Nutting Machine Co.)

height is measured from the seat of the chair. Sitting height is necessary in determining the ratio between torso and leg lengths. It is also included in Doll's anthropometric diagnosis of feeble-mindedness, as discussed on page 120.

Strength Measurements.—Certain measurements of functional efficiency of the organism may be easily taken in the psychological clinic. *Strength* measurements may be secured with several sorts of dynamometers. The most common of the measures of strength is *hand grip*, taken with the dynamometer shown in Figure 2. After the saddle is adjusted to the child's hand and directions are given, he is allowed three trials with both the right and left hands. The best performance of the three trials is taken as the score.

Vital Capacity.—Vital capacity is measured by the maximum amount of air that can be expelled from the lungs at one expiration. The air is expired into a wet spirometer, shown in Figure 3, which is calibrated directly in terms of cubic inches, cubic centimeters, or liters. Three trials are given and the score is the amount expired in the best trial. Decile norms for sitting and standing height, weight, right and left grip, and vital capacity are presented for age-sex groups by Doll (1916). Measurement of *chest girth* is a standard procedure in physical examinations.

The girth is taken with a tape encircling the chest at the nipple line or, more precisely, in a horizontal plane, passing through the base of the ensiform cartilage. It is taken at extreme inspiration and extreme expiration. Surprisingly enough, measures of chest expansion have a low correlation with vital capacity. Louttit and Halford (1930) have shown that the correlation of vital capacity and expiration girth corrected for CA is only .45, and the correlation between vital capacity and amount of expansion is only .16.

An interesting use of the contrast between the "physical" measures, viz., standing height, sitting height and weight, and the "psycho-physical" measures, viz., right and left grip and vital capacity, has been made by Doll (1916) in the diagnosis of feeble-mindedness. We

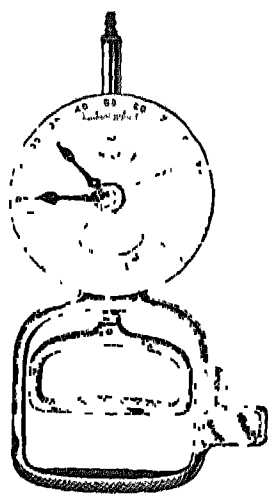


Figure 2.—Hand Dynamometer (Courtesy C. H. Stoelting Co.)

TABLE I
WEIGHT—HEIGHT—AGE TABLE FOR BOYS^a

| Height Inches | 5 Yrs | 6 Yrs | 7 Yrs | 8 Yrs | 9 Yrs | 10 Yrs | 11 Yrs | 12 Yrs | 13 Yrs | 14 Yrs | 15 Yrs | 16 Yrs | 17 Yrs | 18 Yrs | 19 Yrs |
|------------------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 38 | 34 | 34 | | | | | | | | | | | | | |
| 39 | 35 | 35 | | | | | | | | | | | | | |
| 40 | 36 | 36 | | | | | | | | | | | | | |
| 41 | 38 | 38 | 38 | | | | | | | | | | | | |
| 42 | 39 | 39 | 39 | 39 | | | | | | | | | | | |
| 43 | 41 | 41 | 41 | 41 | | | | | | | | | | | |
| 44 | 44 | 44 | 44 | 44 | | | | | | | | | | | |
| 45 | 46 | 46 | 46 | 46 | 46 | | | | | | | | | | |
| 46 | 47 | 48 | 48 | 48 | 48 | | | | | | | | | | |
| 47 | 49 | 50 | 50 | 50 | 50 | 50 | | | | | | | | | |
| 48 | | 52 | 53 | 53 | 53 | 53 | | | | | | | | | |
| 49 | | 55 | 55 | 55 | 55 | 55 | 55 | | | | | | | | |
| 50 | | 57 | 58 | 58 | 58 | 58 | 58 | 58 | | | | | | | |
| 51 | | | 61 | 61 | 61 | 61 | 61 | 61 | | | | | | | |
| 52 | | | 63 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | | | | | |
| 53 | | | 66 | 67 | 67 | 67 | 67 | 68 | 68 | 68 | | | | | |
| 54 | | | | 70 | 70 | 70 | 70 | 71 | 71 | 71 | 71 | | | | |
| 55 | | | | 72 | 72 | 73 | 73 | 74 | 74 | 74 | 74 | | | | |
| 56 | | | | 75 | 76 | 77 | 77 | 77 | 78 | 78 | 80 | | | | |
| 57 | | | | | 79 | 80 | 81 | 81 | 82 | 83 | 83 | | | | |
| 58 | | | | | 83 | 84 | 85 | 85 | 86 | 87 | 87 | | | | |
| 59 | | | | | | 87 | 88 | 89 | 89 | 90 | 90 | 90 | | | |
| 60 | | | | | | 91 | 92 | 92 | 93 | 94 | 95 | 96 | | | |
| 61 | | | | | | | 95 | 96 | 97 | 99 | 100 | 103 | 106 | | |
| 62 | | | | | | | 100 | 101 | 102 | 103 | 104 | 107 | 111 | 116 | |
| 63 | | | | | | | 105 | 106 | 107 | 108 | 110 | 113 | 118 | 123 | 127 |
| 64 | | | | | | | | 109 | 111 | 113 | 115 | 117 | 121 | 126 | 130 |
| 65 | | | | | | | | | | | | | | | |
| 66 | | | | | | | | 114 | 117 | 118 | 120 | 122 | 127 | 131 | 134 |
| 67 | | | | | | | | | 119 | 122 | 125 | 128 | 132 | 136 | 139 |
| 68 | | | | | | | | | 124 | 128 | 130 | 134 | 136 | 139 | 142 |
| 69 | | | | | | | | | | 134 | 134 | 137 | 141 | 143 | 147 |
| | | | | | | | | | | 137 | 139 | 143 | 146 | 149 | 152 |
| 70 | | | | | | | | | | | | | | | |
| 71 | | | | | | | | | | 143 | 144 | 145 | 148 | 151 | 155 |
| 72 | | | | | | | | | | 148 | 150 | 151 | 152 | 154 | 159 |
| 73 | | | | | | | | | | | 153 | 155 | 156 | 158 | 163 |
| 74 | | | | | | | | | | | 157 | 160 | 162 | 164 | 167 |
| | | | | | | | | | | | 160 | 164 | 168 | 170 | 171 |

Prepared by Bird T. Baldwin, Ph D., and Thomas D. Wood, M.D.

^a These tables were constructed from measurements made on a group of presumably healthy children, most of whom are native born. They show the average weight for height and age and sex. Individual children of the same age and height normally show wide variations in weight. The tables are intended to show the average weight for height and age and sex and depth of significance of status (Ref.

TABLE I (Continued)
WRIGHT—HEIGHT—AGE TABLE FOR GIRLS^a

| Height Inches | 5 Yrs | 6 Yrs | 7 Yrs | 8 Yrs | 9 Yrs | 10 Yrs | 11 Yrs | 12 Yrs | 13 Yrs | 14 Yrs | 15 Yrs | 16 Yrs | 17 Yrs | 18 Yrs |
|------------------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 38 | 33 | 33 | | | | | | | | | | | | |
| 39 | 34 | 34 | | | | | | | | | | | | |
| 40 | 36 | 36 | 36 | | | | | | | | | | | |
| 41 | 37 | 37 | 37 | | | | | | | | | | | |
| 42 | 39 | 39 | 39 | | | | | | | | | | | |
| 43 | 41 | 41 | 41 | 41 | | | | | | | | | | |
| 44 | 42 | 42 | 42 | 41 | | | | | | | | | | |
| 45 | 45 | 45 | 45 | 45 | 45 | | | | | | | | | |
| 46 | 47 | 47 | 47 | 48 | 48 | | | | | | | | | |
| 47 | 49 | 50 | 50 | 50 | 50 | 50 | | | | | | | | |
| 48 | | 52 | 52 | 52 | 52 | 53 | 53 | | | | | | | |
| 49 | | 54 | 54 | 55 | 55 | 56 | 56 | | | | | | | |
| 50 | | 56 | 56 | 57 | 58 | 59 | 61 | 62 | | | | | | |
| 51 | | | 59 | 60 | 61 | 61 | 63 | 65 | | | | | | |
| 52 | | | 63 | 64 | 64 | 64 | 65 | 67 | | | | | | |
| 53 | | | 66 | 67 | 67 | 68 | 68 | 69 | 71 | | | | | |
| 54 | | | | 69 | 70 | 70 | 71 | 71 | 73 | | | | | |
| 55 | | | | 72 | 74 | 74 | 74 | 75 | 77 | 78 | | | | |
| 56 | | | | | 76 | 78 | 78 | 79 | 81 | 83 | | | | |
| 57 | | | | | 80 | 82 | 82 | 82 | 84 | 88 | 92 | | | |
| 58 | | | | | | 84 | 86 | 86 | 88 | 93 | 96 | 101 | | |
| 59 | | | | | | 87 | 90 | 90 | 92 | 96 | 100 | 103 | 104 | |
| 60 | | | | | | 91 | 95 | 95 | 97 | 101 | 105 | 108 | 109 | 111 |
| 61 | | | | | | | 99 | 100 | 101 | 105 | 108 | 112 | 113 | 116 |
| 62 | | | | | | | 104 | 105 | 106 | 109 | 113 | 115 | 117 | 118 |
| 63 | | | | | | | | 110 | 110 | 112 | 116 | 117 | 119 | 120 |
| 64 | | | | | | | | 114 | 115 | 117 | 119 | 120 | 122 | 123 |
| 65 | | | | | | | | 118 | 120 | 121 | 122 | 123 | 125 | 126 |
| 66 | | | | | | | | | 124 | 124 | 125 | 128 | 129 | 130 |
| 67 | | | | | | | | | 128 | 130 | 131 | 133 | 133 | 135 |
| 68 | | | | | | | | | 131 | 133 | 135 | 136 | 138 | 138 |
| 69 | | | | | | | | | | 135 | 137 | 138 | 140 | 142 |
| 70 | | | | | | | | | | 136 | 138 | 140 | 142 | 144 |
| 71 | | | | | | | | | | 138 | 140 | 142 | 144 | 145 |

Prepared by Bird T. Baldwin, Ph D, and Thomas D. Wood, M D

^a When taking measurements, remove the child's outdoor clothing, shoes and coat. Take heights with a square, consisting of two flat pieces of wood joined at right angles (a chalk box will serve). The child is placed in a good erect position, with heels and shoulders against the wall or wide board, upon which has been marked or pasted an accurate measure. Age is taken to the nearest birthday.

shall discuss this use further when considering diagnostic methods used for mental deficiency.

Head Measurements—Head measurements of several sorts are sometimes of value in diagnosis. Head size, however, has practically no relation to intelligence. Therefore, head measurements cannot be taken as a basis for judging degree of ability. *Circumference* of the head is measured with a tape "above the supraorbital ridges and over the opisthocranium (i.e. the posterior terminus of the line of greatest head length), care being taken that the tape is maintained at the same level on both sides of the head." (Wood-Jones, 1929.) Average head circumferences are shown in Table II.

TABLE II—AVERAGE HEAD CIRCUMFERENCES (AFTER HOLT)

| Age | Boys | | Girls | |
|---------|--------|------|--------|------|
| | Inches | Cm. | Inches | Cm. |
| Birth | 13 9 | 35 2 | 13 5 | 34 3 |
| 6 mo | 17 0 | 43 2 | 16 6 | 42 3 |
| 12 mo | 18 0 | 45 7 | 17 5 | 44 5 |
| 18 mo | 18 6 | 47 5 | 18 0 | 45 7 |
| 2 yrs | 19 2 | 48 7 | 18 6 | 47 5 |
| 2 5 yrs | 19 5 | 49 5 | 19 0 | 48 2 |
| 3 yrs | 19 8 | 50 9 | 19 4 | 49 3 |

Note Increase between 3 and 5 years approximately 1 5 inches (4 cm) From 5 years to puberty increase is about one half inch per each five years

The head diameters usually taken are length, width and height. These measures are described in the following quotations from Wood-Jones (1929)

Maximum Length of the Head or Maximum Anterior-posterior Diameter—"Landmarks. anteriorly, the most prominent point of the glabella (the central point upon the frontal bone between the two supraorbital ridges), posteriorly, the opisthocranium (that point in the middle line which is situated on the back of the head and is most distant from the glabella). Measurement taken with calipers"

Maximum Breadth of the Head or Maximum Lateral Diameter—"The greatest horizontal, transverse diameter of the vault of the head above the supramastoid and xygomatic crests. (It is to be noted that the directions often given for recording this measurement at the maximum diameter 'above the plane of the ear-holes' does not sufficiently safeguard against the possibility of including the supra-

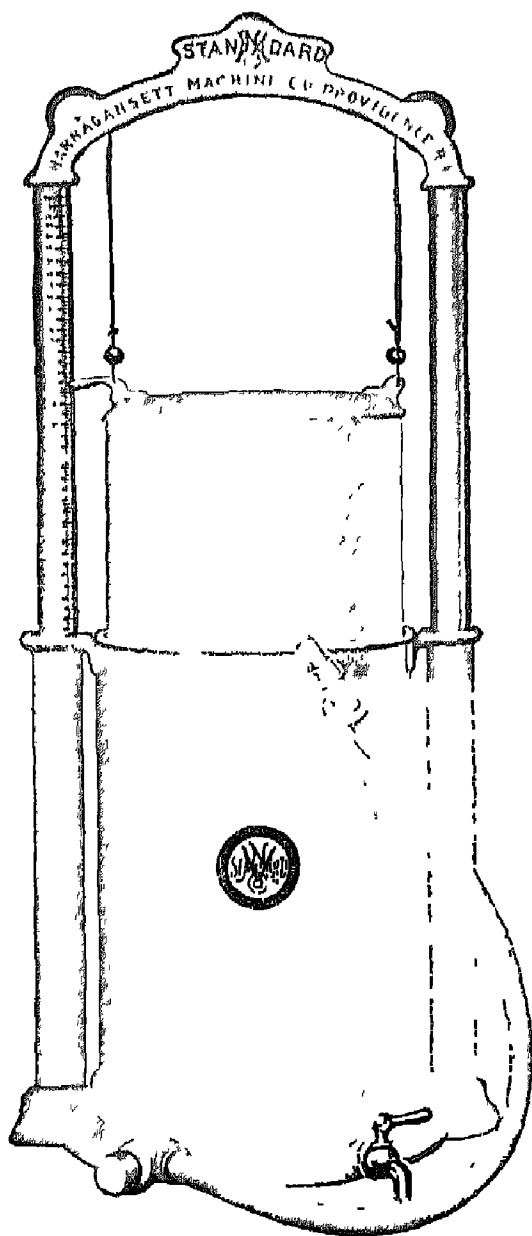


Figure 3 —Wet Spirometer (Courtesy Harpallusett Machine Co.)

mastoid crests in the measurement. If any such directions are to be included, the upper extremity of the pinna [external ear] is a safer guide.)”

Height of the Head.—“Measuring points· above, the vertex (the highest point upon the sagittal line of the scalp when the head is held so that the eyes are directed straight forward); below, the superior border of the auditory opening” This measure is best taken with a radiometer illustrated in Figure 4, which is designed for this purpose.

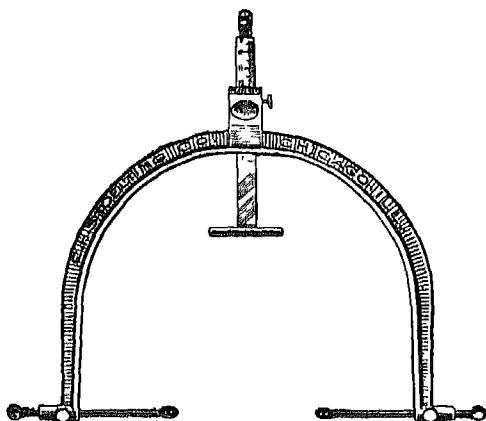


Figure 4—Radiometer (Courtesy C H Stoeckel Co)

These diameter measurements may be used to calculate several derived measures of which we shall mention two, namely, the cephalic index, and cranial capacity

The cephalic index is the ratio:

$$\frac{\text{Maximum breadth}}{\text{Maximum length}} \times 100$$

Head shapes are classified on the basis of this index, the most common classification being

| | | |
|-----------------|-------------------|----------------------|
| Dolichocephalic | long, narrow head | Index 74.9 and below |
| Mesocephalic | | Index 75-79.9 |
| Brachycephalic | short, broad head | Index 80 and above |

As Wood-Jones points out, these classes really refer to skulls and not to the living head, i.e., they are based on cranial, not cephalic, indexes. Furthermore, the index for skull and head may not be the

same in a given individual. Different investigators have suggested several values for correcting the living head index to secure the real craniometric index. The formula

$$\text{Cephalic index} - 2 = \text{cranial index}$$

appears to be the most useful approximation.

Cranial capacity is calculated from the three diameters by means of formulae published by Lee (1901), which are:

$$\begin{aligned} \text{Males Brain volume in cc.} &= 000337 (L-II) (B-II) (H-II) - 406 \\ \text{Females Brain volume in cc.} &= 0004 (L-II) (B-II) (H-II) - 206.6 \end{aligned}$$

when volume is expressed in cubic centimeters and the diameter in millimeters. Berry and Porteus (1920) present arguments for using the male formula for females, and they have presented percentile norms for males and females using the male formula. A condensation of

TABLE III—CONDENSED PERCENTILES OF CRANIAL CAPACITY
(After Berry and Porteus)

| Age | Boys' Percentiles | | | Girls' Percentiles | | |
|-------|-------------------|------|------|--------------------|------|------|
| | 10 | 50 | 90 | 10 | 50 | 90 |
| 7 | 1151 | 1232 | 1324 | 1118 | 1193 | 1284 |
| 8 | 1173 | 1253 | 1347 | 1136 | 1207 | 1279 |
| 9 | 1194 | 1273 | 1367 | 1130 | 1230 | 1302 |
| 10 | 1209 | 1290 | 1376 | 1160 | 1239 | 1309 |
| 11 | 1220 | 1302 | 1391 | 1165 | 1255 | 1368 |
| 12 | 1213 | 1310 | 1412 | 1167 | 1263 | 1381 |
| 13 | 1238 | 1325 | 1430 | 1202 | 1290 | 1384 |
| 14 | 1243 | 1343 | 1447 | 1214 | 1298 | 1387 |
| 15 | 1265 | 1377 | 1487 | 1236 | 1308 | 1428 |
| 16 | 1307 | 1404 | 1507 | 1235 | 1326 | 1427 |
| 17 | 1320 | 1415 | 1522 | 1233 | 1328 | 1425 |
| 18 | 1350 | 1448 | 1551 | 1244 | 1328 | 1436 |
| 19 | 1381 | 1466 | 1551 | 1264 | 1349 | 1427 |
| 20-30 | 1370 | 1481 | 1589 | 1253 | 1351 | 1453 |

Percentiles calculated on measurement of 8998 Australian children and adults of Melbourne, Victoria

these norms is given in Table III. We shall consider later Porteus' suggestion of using these measures in the diagnosis of feeble-mindedness.

3. Performance Ability and Achievement

In many types of cases adequate measures of performance in verbal and manual abilities, or in educational achievement, are of great value.

As the methods used in making such measurements are extensive and technical we have reserved the next chapter for their discussion.

4. *Living Conditions*

The conditions, physical and social, in which a child lives have decided potentials for good or bad effects on him. In subsequent chapters we shall discuss the etiologic possibilities of these conditions. Here we are concerned only with their enumeration. Certain formalized scales for measuring environment are available and are mentioned on page 88. While the scores on such scales may be of some value in diagnosis, an interpretation of these data in the light of each individual problem is probably more important. It would be very difficult to make an exhaustive set of rubrics to cover all phases of living conditions that would fit every case. In the following paragraphs are briefly presented some of the more obvious items. Any other information received during an examination should, of course, be given consideration.

Physical Conditions of the Home.—*Size*: number of rooms and the number of rooms used for sleeping. *Kind*: what sort of house, e.g., frame, single, upper apartment, brick, fourth-floor apartment, etc.

Tenure: how long lived here, where lived previously. *Ownership*: if the home is owned, give approximate cost and amount of mortgage if any. For rented homes give monthly rent.

Furnishings: indicate in general the conditions and adequacy of furnishings. *Musical instruments*: list such instruments, including radios and victrolas. *Books*: indicate number and kind. *Magazines and newspapers*: indicate number and kind received more or less regularly. *Electric appliances*: list those used, including cooking appliances, washing machines, heaters, flatirons, etc. *Car*: name, style, size, and condition. *Food*: indicate, in general, adequacy in amount and kind. Additional remarks may include sanitary facilities, kind of lighting, daylight and ventilation, care of home, and any other pertinent characteristics.

Psychosocial Conditions of the Home.—The persons who live in the child's home are extremely important elements in his behavioral development. The etiological significance of intra-familial attitudes is discussed in Chapter VIII. The enumeration of people living in the home we shall consider under family history. Such home circumstances as immorality, crime, cruelty, viciousness, unusual daily pro-

gram, constant traveling, etc., should be recorded. If the child lives in an institution similar data should be secured concerning matrons, supervisors, and other attendants who have contact with the child.

Neighborhood.—*Play spaces* mention available places for playing, such as playgrounds, open fields or lots, streets. Does the child use these? *Pool rooms* are there pool rooms in which young boys and adolescents congregate near the home? Does the child frequent them? *Movies* does the child have the opportunity of attending the community movie? How frequently? *Church*. do the churches of the community have recreational facilities open to all children? Does the child use these or similar facilities in his own church? *School* does the school make its playgrounds or playrooms available after school hours? *Companions*. indicate with whom the child plays—opposite sex, gang, clubs, special children, etc. *Other recreational opportunities* note any further items concerning recreation in which the child engages.

b. PAST PERSONAL HISTORY

1 *Birth and Infancy*

Pre-natal Conditions—The life of the child must be thought of as beginning, not at birth, but at conception. Therefore, factors which influence embryonic or fetal development may play a significant part in the child's behavioral life. From this it follows that the developmental history of the child must begin with the pregnancy condition of the mother. Factors having a possible influence on the vitality of the child include: general health of the mother, use of alcohol and drugs (including tobacco), accidents, disease conditions such as syphilis, tuberculosis, chronic nephritis, toxemia of pregnancy, eclampsia, cancer, etc; mental conditions such as worry, fears, psychoneuroses, psychoses. Brown and Potter (1930) suggest that such things as alcoholism, syphilis, or any debilitated state of the father before the beginning of pregnancy may also have an effect on the child's vitality. Information concerning pregnancy condition is usually secured from the mother; but when a child is several years old the mother's memory may be at fault, so her statements, especially if significant conditions are revealed, should be corroborated by the physician, hospital records, or at least by questioning the father or possibly other people who were associated with her during the pregnancy in question.

Birth Conditions.—*Duration*: hours of labor. Prolonged, difficult

labor may result in internal injuries with serious consequences to the child's development. *Instruments* whether or not used Head injuries resulting from the use of instruments sometimes cause paralysis and slow mental development Record as completely as possible all injuries at birth. *Prematurity* fetal age at birth The studies of Hess, Mohr, and Bartelme (1934) show that mental ability and behavioral development of premature infants are normal when correction is made for the prematurity. However, in individual cases the immaturity at birth may have significant consequences. If *Caesarian section*: where and by whom the operation was performed These data afford a means of securing further information. *Place of birth* home, or name of hospital. *Birth weight*, this should be secured from the most reliable source, hospital records if possible. *Respiration*, spontaneous, difficulty in establishing, cyanosis, blue baby. Secure from hospital records if possible.

Infancy—Feeding age taken from breast What formula was used in artificial feeding? Age of partial weaning from bottle, i.e., age when solid and semi-solid food introduced Did baby refuse such food? Did it agree with him? Any further notes on the reaction, especially in regard to how parents met the baby's objection to change of food.

Teething age of first tooth, and age when all temporary teeth had erupted The most usual times of eruption are:

| | |
|---|------------|
| 2 lower central incisors | 6-9 months |
| 4 upper incisors | 8-12 " |
| 2 lower lateral incisors and four anterior molars | 12-15 " |
| 4 canines | 18-24 " |
| 4 posterior molars | 24-30 " |

Fontanelles age of closing. Posterior are usually closed by six or eight weeks after birth Anterior closes at 15 to 18 months, with a normal variation from 14 to 22 months Elsässer (1906) gives the following average diameters (between parallel sides) of the anterior fontanel at various ages

| | |
|------------|---------------------|
| 1-3 months | 2.51 cm (1 inch) |
| 4-6 " | 3.12 " (1.2 inches) |
| 7-9 " | 3.63 " (1.4 ") |
| 10-12 " | 3.11 " (1.2 ") |
| 13-15 " | 2.03 " (0.8 inch) |

Elimination age at which *bowel control* is established. This may be taken to mean the age after which soiled diapers are unusual or the

age at which evacuation on the toilet seat has been habitually established. The age when this behavior is established will vary widely with the amount of training. If training has been constant during the first year (starting as early as the second month), one can expect that the average child will have an habitual rhythm for one evacuation per day by the age of twelve months. If no training has been given the age may be much later, but in any case the two-year-old should have adequate bowel control.

Bladder control Daytime dryness is also a matter of training, acceptable habits being established in average children after eighteen months. Bladder control at night is usually established later than daytime control. From 2½ to three years is a satisfactory average. Lack of reliable daytime control after two years and bed-wetting in children over three years of age may be classed as enuresis, and should be carefully investigated. These ages may be somewhat young if training has not been consistent.

Locomotion There is a rather wide age range within which the first occurrence of various steps in the development of locomotion is considered average. Shirley (1931) has shown that the sequence of major steps is very uniform in the following order: passive postural control, active postural control, active efforts toward locomotion, creeping and walking with support, walking alone. The age at which these various steps appear is affected to some extent by the weight of the child and by the amount of specific training given. Gesell's (1928) normative placement for certain locomotor acts are.²

| | |
|---------------------------|----------|
| Sitting momentarily alone | 8 months |
| Crawling by any method | 9 " |
| Standing alone | 15 " |
| Walking alone | 15 " |

Shirley (1931) found the following median ages in her small group of 22 children:

| | |
|-----------------------|----------|
| Sitting momentarily | 25 weeks |
| Standing with support | 42 " |
| Standing alone | 62 " |
| Walking alone | 64 " |

² In their recent monograph, Gesell and Thompson (1934) present detailed tables showing the frequency of occurrence of many specific acts at different ages in infants.

For taking a step unassisted, Mead (1916) found the median age of 25 "normal" boys to be $13.9 \pm .97$ months, and for 25 "normal" girls to be 13.21 ± 1.12 months. These earlier ages may be due to the fact that Mead's subjects were probably more highly selected, all being children of undergraduate or graduate students or professors. Terman (1925) found the median age of walking among his superior children to be 13.0 months, while Mead (1916) found among feeble-minded children in institutions a median age for boys of 22.2 ± 8.16 months, and for girls 20.76 ± 6.96 months.

Talking. Data secured from parents or relatives on the age of talking must be carefully checked. Parents are apt to call the relatively meaningless vocalizations of infants talking, especially if the baby makes occasional sounds which are like words. Ask for examples of the baby's vocabulary at the earliest age reported. Terman (1925) gives the following data.

| Group | Median Age | Age Range |
|---------------|------------|-----------|
| Normal | 15.80 mos | 9.25 mos |
| Feeble-minded | 34.44 " | 12-156 " |
| Superior | 12.00 " | 6.24 " |

Gesell (1928) places use of two words at twelve months, and use of short sentences at 24 months.

Other Characteristics of Development.—Full information on further evidences of slowness or acceleration in development should be recorded; for example apathy in baby, lack of interest in surroundings, slowness in learning to feed or dress self, slowness in social reactions, etc. The converse of these activities should also be recorded, e.g., development of habits and activities at a precocious age.

2 Health History

The health history of the child should include a list of all diseases or injuries he has had. The common childhood diseases may be merely mentioned unless they were unusually severe or presented serious complications or sequelae. Some diseases are of particular importance because of the possible behavior sequels. These include meningitis, encephalitis, and syphilis (especially congenital), and sometimes

measles and scarlet fever. Head injuries may also be important in the etiology of behavior difficulties, although probably not so important as is sometimes supposed

In addition to diseases or injuries that result in actual physical impairment, any severe disease may be important in behavior. When a child is sick the program of the home is disrupted and he is very apt to secure much more attention than usual. He is apt to realize this especially during convalescence, and unless care is taken he may continue to capitalize on the position by remaining "invalid." In a bulletin of the U. S. Children's Bureau (1931) is this statement, "Treat a sick child with gentleness but with firmness. Do not indulge him just because he is sick." Another author remarks that convalescence is an ideal time to develop a spoiled child.

3 Educational History

Pre-school: enter age when attended, and name of nursery schools and kindergartens. *First grade*: age of entrance in years and months. Also note whether started in the fall or spring semester. *Grades repeated*: list grades repeated, and note how many times in same grade. *Average marks*: as marking systems vary a great deal, probably qualitative estimates are all that can be secured. Letter ratings might be used such as A = excellent, B = good, C = average or fair, D = poor, F = failure or very poor. *Schools attended*: list all schools the child has been in, giving dates and grades. Such a list may be very important in accounting for retardation in normal children as discussed in Chapter V.

Teacher's attitudes: a brief estimate from the teacher as to her attitudes toward this child and his work. Sometimes the estimate of the teacher's attitude by a parent or other person is different from that of the teacher herself, therefore, such a statement may prove valuable.

Child's attitude toward school: this should be secured from the child, and be stated as nearly as possible in his own words. As many children may have a stereotyped response to the question, "Do you like school?" this information is best secured after the child feels so at ease with the examiner that the responses can be elicited in the course of the conversation. *Preferred and disliked subjects* should also be recorded as stated by the child.

Achievement test results. when available from school records or from clinic examinations, the performance on standardized educational tests (Chapter III) should be recorded. Results should be from tests given within a year or so unless older ones are the only ones available. In special cases it may be desirable to get results from several tests given in different years. The following items should be secured: name of test, raw score, and the percentile or other normative figure for that performance.

Attendance: time lost by sickness; to be given in an approximate number of weeks in the various grades. If the time is less than two or three continuous weeks, i.e., if several periods of a few days are lost because of colds or other minor illnesses, the exact time may not be given. Time lost for other satisfactory reasons, e.g., illness or death in the family, should also be recorded. *Tuancies.* to be entered only if absence is not due to illness or home conditions

4. Other Experiences and Activities

Sex History—Instruction: did parents answer the small child's questions about sex or were they evasive? Did his knowledge of sex come from vulgar sources? Nature of instruction and age at which given. *Experiences:* note the nature of any experiences and the age at which they occurred *Masturbation:* age when first started or first noticed. The duration and frequency of the practice. Of greatest importance are the *reactions of the parents* to the act—disgust, anger, methods of correcting, etc. Also the child's attitudes—fear, unconcern, secretive-ness, etc. If other people are concerned, e.g., a teacher, their attitudes and reactions to it should be secured. Information on the child's attitude should be secured from him as well as from the parents.

Vocational History.—In older children some account of vocational experiences may be significant *Started work* give date of starting first job even if it was part time, by whom employed and kind of work. *Working papers* this information should be secured for use in checking records. *Positions held* list in order the various places employed, with the nature of the job, dates of starting and stopping, and the reason for leaving. It may be necessary in some cases to check these with the employers indicated, although such checking must be carefully done, or omitted, if it may result in causing the patient further difficulty

B. FAMILY HISTORY

There are three main reasons for securing a history of the child's family: (1) to obtain a picture of the socio-economic and cultural group from which he comes, (2) to secure some insight into familial attitudes; (3) to discover inheritable pathologic conditions which may have some possible significance. Of chief importance are data concerning the immediate family, i.e., parents, siblings, and other persons living in the home. The etiologic significance of the family constellation is discussed later in Chapter VIII. Investigation of grandparents and even older generations, as well as collaterals, may throw light on inherited and familial characteristics.

Father—*Age and birth date* age need be secured only in years. The birth date (at least the year) should be entered only if secured independently of the age, i.e., do not calculate by subtracting the age from the year of examination. *Birthplace* if in the United States give state at least; if foreign, give name of country and place if possible. *Occupation* give sort of work done, such as pattern maker, foreman in machine shop, elementary school teacher, president of company, etc. *Employed by* give name of concern employing and, if necessary, any other details needed for checking. *Salary* this is best given in terms of yearly wage. If wage is on an hourly or piece basis determine the approximate amount made per year. *How long employed here* state in years and months. *Education* record grade attained in school and, if possible, quality of work. Also age at leaving school. *Health* present: state condition of general health as good, poor, etc. If father is in poor health note cause and length of time he has been ill. *Disease history* note major illnesses, particularly tuberculosis, syphilis, nervous and mental, glandular. *Excesses* note whether or not there is habitual use of alcohol, drugs (including tobacco), or indulgence in immoral sex practices. *Death*: note date and age, with cause, taken, if possible, from the death certificate. Additional information and other details should be recorded.

Mother—Data concerning the mother should be secured for the same categories as listed for father. Additional questions are: *Work before marriage*: nature of occupation in general, e.g., teaching, store clerk, etc. *Frequency since*, an approximate estimate of the frequency of working outside the home since marriage. *Who takes or took care*

of children: note the manner in which children are or were cared for while mother was away from home.

The above data are intended for the patient's own parents. If one or both are dead and the child lives with foster or step-parents, note the fact and secure information as above for the foster parents. If the child lived for a number of years with his own parents, additional data should be secured regarding them. Also the child's reactions and attitudes toward foster parents should be noted.

Marital status, record which of the following apply: not married (illegitimate child), yes (only if parents live together), divorced, separated, one parent dead, parent remarried. How long have the parents been married and where were they married? These should be entered as it sometimes is necessary to check.

Attitudes: of the parents toward each other; of either parent or both toward children, including their own and others, toward this child—is he unwanted, spoiled, are they solicitous, etc? *Discipline,* are the parents consistent in discipline at different times and between themselves, or are there conflicts between them over control of the child?

Siblings.—List in order of birth all true siblings of the patient (include stillbirths and siblings who have died), with name, age, sex, and remarks regarding behavior, especially as it might affect the patient. If there are foster siblings with whom the child lives, enter the same information for them after that for the true siblings.

Grandparents—For each of the grandparents note condition of health if alive and cause of death if dead. In disease history note particularly nervous and mental. Indicate if any grandparent ever lived in the child's home.

Collaterals—List all aunts, uncles, cousins, etc., who because of nervous and mental history, or contact with the child, might have some influence on him. Note those who live or have lived with child, institutional cases, those who are reported to be "queer" or "silly," or to have a "violent temper," etc.

SPECIAL PROBLEMS

For certain types of problems special information is necessary in addition to a general history as outlined above. Two of the most frequent of these problems are delinquency and speech defects. While for these cases a complete history is desirable—in fact, necessary—the following items must also be secured.

Delinquency—Present offense this should be the official charge against the child, with some explanation. *Court and judge* enter the name of the court and of the judge having custody. *Previous offenses* list previous offenses that have brought the child before courts, whether convicted or not. *Institutions and probations* list time and place of previous institutionalizations and probations.

Speech Defects (cf. Chapter XI) —*Type* indicate whether defect is stuttering, lisping, baby talk, etc. *Age at onset* was the defect present when the child first started to talk? If not, give age at which it appeared. *Circumstances at onset* briefly state circumstances surrounding the child when the defect was first noticed, e.g., emotional shock, other person with defect, embarrassment, etc. *Occurs more frequently when* indicate (especially with stutterers) the circumstances when the defect appears to be more frequent or more severe, e.g., at school, at home, in a crowd, alone, etc. *Sounds which are difficult* list sounds child does not say clearly. *Language spoken at home* give names of languages used at home, and how frequently. *Associates with speech defects* do other members of the family have speech defects? What sort? Do the child's usual companions have such defects? *Structural defects* indicate presence of cleft palate, harelip, malformed jaw, tongue-tiedness, etc. Details of the physical examination to be secured from the physician

SOURCES OF INFORMATION

Obviously the most immediate source of information about the child is the person who brings him to the clinic, and the child himself. Information on the child's development may be secured from the parents, hospital records, family physician, schools and employers. Formal data regarding the family and home may be secured from the parents and perhaps by observation during a home visit. The physical examination should be made by a physician.

If there is even the slightest suspicion of an informant's honesty or accuracy, efforts should be made to check his information. No reasonable opportunity to check information should be neglected in any case. One would expect mothers to be more reliable informants than almost any other person. However, even their accuracy is not perfect. Doering and Raymond (1935) present some data on the reliability of mothers as informants, gathered by Miss Grace Finn-Brown. This investigator checked the information given by mothers of sixty patients admitted

to the Boston Psychopathic Hospital. Even with such specific questions as date of birth and grade reached in school, 11 per cent of the mothers made errors. In response to questions concerning hereditary factors such as nervous or mental condition in the family, 26 per cent of them erred

Accounts of attitudes are difficult to get. Opinions from several different sources may be secured and compared. Remarks, statements, accounts of overt acts, opinions and the like should be secured from as many sources as possible. This is particularly true of parental attitudes, teachers' attitudes, part played by people living in the home, the child's own attitudes, etc. Such information must be carefully evaluated, and not taken immediately at its face value. The names and relationship to the child of all informants should be recorded. By relationship is meant member of family, teacher, playmate, policeman, neighbor, employer, club leader, and so on. From a study of such material the examiner must make his own final judgment.

If a particular case requires more information than can be secured from the person who brings the child to the clinic it may be necessary to visit the home, school, and neighborhood in which the child lives. Gathering information in this manner is a professional task for which social workers are especially trained; therefore it should be secured by such workers wherever possible. Any investigator seeking the rather intimate information included in this outline must be ready to meet overt antagonism as well as more subtle negativism. Tact and sympathy will be more useful than resort to authority and force.

RECORDING RESULTS OF EXAMINATION

Information secured under the various heads listed above should be recorded in a permanent form. There is disagreement among clinic workers as to the value of printed history schedules. The arguments on both sides of the question may be summarized thus (Louttit, 1934)

Arguments against Printed Forms—(1) The strongest argument against the use of printed forms is that the examiner is apt to feel restricted to the items appearing thereon. Thus is imposed a standardization without sufficient flexibility to allow for variation from case to case. (2) From this follows a second criticism: that a printed form is not suitable for special cases. Some children present problems concerning which requisite information is not asked for on the blank. (3) On

the other hand, it is argued that for many cases too much information is asked for. (4) Therefore, the claim is made that using blanks that are not going to be filled out completely means an unnecessary expense

Arguments for Printed Form—Essentially, the arguments in favor of using a printed form are answers to the previously stated objections. (1) If a printed form is considered primarily as a guide to history taking, there is no need to feel restricted. Omission from, and additions to, the blank must be made in light of each immediate situation. (2) An adequate form will make allowance for additional information required in special cases. (3) For "routine" cases for which a great deal of information is not desired under the operating procedure of certain clinics, there still remains a basic minimum of data that good policy would require. (4) Both the second and third of these may be taken care of by careful organization of the form. Basic data may be entered item by item, while the less definite data that vary from case to case may be allowed for by sufficient blank space. With such organization, a printed form may be made inexpensively, and over a period of years will prove economical in follow-up, continuation of cases, and utilization of information for research. (5) This introduces what is probably as important a reason for the use of a printed form as any. The clinic records are more uniform and more easily available for many purposes, even years after a case is closed.

A SAMPLE BLANK

At the Indiana University Psychological Clinics a blank (Louttit and Waskom, 1934³) has been developed which has proved satisfactory after several years of use. This form is a twelve-page pamphlet with an 8½ x 11-inch page size. Each page is reproduced in order on pages 37-44. There are ten sections, each concerned with a special part of the desired history.

Section I. Identification The upper half of the first page is arranged for the usual data required for identification of the child. Space is also provided for a brief statement of the problem or the reasons for referring.

³These blanks may be secured from the Department of Psychology, Indiana University, Bloomington, Indiana, at four cents each, with a discount on quantities. This reproduction of the blank does not show the actual space provided for filling in a complete record of the findings.

Section II. Summary. The lower half of the first page is to be used for a statement of conclusions, including diagnosis and prognosis, and for recommendations made. Thus, the first page serves as a face sheet giving a very brief summary of the case.

Section III. Developmental History. In this section there are seven divisions including data on pregnancy conditions, birth and infancy, and summaries of sex, health, educational and vocational history. Certain data are specifically mentioned and require a brief statement, for other questions, e.g., in health history, attitudes at school, etc., space is left for a more extended answer because these are things that vary a good deal from case to case.

Section IV. Parents and Family: Certain definite information regarding the father and mother is asked for, and space is allowed for extra remarks. The parental attitudes, siblings, grandparents and collaterals are all entered as headings, with space for comments under them.

Section V. Home. Certain important data regarding the physical conditions of the home are treated specifically. Further entries regarding the home as well as the neighborhood, and the psychosocial conditions within the home, may be entered in an informal manner to suit the specific case.

Section VI. Child's Behavior. Rather than list behavior or personality traits to be rated or checked, we find it more satisfactory to leave a blank page on which are written accounts of the child's behavior given by various informants or by the child himself. We use this page also for notes regarding the case not elsewhere provided for.

Section VII. Test Performance. These pages have been so arranged that we find it unnecessary to use any other blank forms for recording test performance results. Our usual routine testing uses a form of the Binet, the Porteus Maze and one or more form boards. Each of these has been fully provided for. The Roman numerals under "Binet" and "Porteus Maze" represent year groups, and the row of Arabic numerals under "Binet" are for items within the year group. We use these symbols:

+ for pass

— for failure

⊕ for credit given although the item was not presented

⊖ for credit not given although the item was not presented

○ for items omitted

The score may be summarized in the last column. Responses to Binet or other questions, or comments on maze or form-board performances may be written on the lower half of the page. Results on tests from pre-school scales, and aptitude, personality, and other test results are entered on the following page. All test performances are summarized in the table in the upper right-hand corner headed "Summary." On the lower half of the second page space is left for a description of the child's attitude toward the test, and special notes on interpretation.

Section VIII Physical Examination. Except for the formal anthropometric data, the spaces for the various sections have been left blank for the convenience of the physician making the examination. It is our practice to have this part of the blank filled in only by a physician.

Section IX Delinquency and Section X Speech Defects are included for certain formal data concerning these particular groups.

A BLANK FOR HISTORY TAKING IN PSYCHOLOGICAL CLINICS

INDIANA PSYCHODIAGNOSTIC BLANK

Devised by C. M. Louttit, Director, Psychological Clinics, Indiana University, and Willard B. Waskom, University of Kentucky.

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Name Sex Race CA

Address

Birthdate Birthplace

School Grade

Parent or guardian

Referred by Date

Problem

.

Brought by

Examiner

II. SUMMARY

Diagnosis

Prognosis

Recommendations

Name

Date

No.

III. DEVELOPMENT OF CHILD

Pregnancy conditions

BIRTH: duration instruments
 premature Caesarian
 injuries birth weight resp.
 where delivered

INFANCY. feeding; breast until when formula.....

weaning; age reactions

first tooth last tooth

fontanel closed

elimination; bowel, age bladder, d n

sit up crawl stand walk

age talking. single words sentences

Other characteristics of development

SEX HISTORY: instruction; age by whom
 nature of

experiences (incl. masturbation)

HEALTH HISTORY. (List diseases and injuries chronologically,
 giving age, severity and child's reactions.)

EDUCATIONAL HISTORY: pre-school, age where

enter first grade grades repeat

grades skip average marks

schools attended

A BLANK FOR HISTORY TAKING IN PSYCHOLOGICAL CLINICS

attitude of teachers

child's attitude toward school

preferred subjects

disliked subjects

| achievement test results | | | | attendance | |
|--------------------------|------|-------|------|---------------------|-----|
| date | test | score | %ile | time lost for cause | ... |
| ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | truancies | ... |
| ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | parents' attitude | ... |
| ... | ... | ... | ... | ... | ... |

VOCATIONAL HISTORY: age start work ... kind ...

working papers; where... .. date
 positions held (list all positions, kind of work, length of time, reason
 for leaving, etc.)

IV. PARENTS AND FAMILY

FATHER: agebirthdatebirthplace.

occupation employed by.

salary how long here

health; present

disease history

..... ..

excesses; alcohol sex drugs

G M LOUETTE

if dead, date age cause

remarks

MOTHER age birthdate birthplace

occupation employed by

salary how long here

work before marriage, occupation

frequency work since marriage

who cares(d) for children

health; present

disease history

excesses; alcohol sex drugs

if dead, date age cause

remarks,

BOTH married how long where

attitudes (describe attitudes toward each other, toward children in general, and toward this child.)

discipline (briefly describe the methods of, and consistency of parental discipline)

SIBLINGS (list in order, including any who have died.)

order name age sex remarks

GRANDPARENTS (Note for each of the four grandparents present state of health or age at, and cause of, death. Have they been in close contact with child?)

A BLANK FOR HISTORY TAKING IN PSYCHOLOGICAL CLINICS

COLLATERALS: (Note here any aunts, uncles, cousins, etc. who because of their health history or contact with the child might be factors in the problem.)

V. HOME

PHYSICAL CONDITIONS size kind

tenure previous homes

ownership, cost rent

furnishings, musical instr

books and magazines

electric appliances

car

food, quantity quality

remarks

NEIGHBORHOOD (describe neighborhood with special emphasis on recreational opportunities Note pool rooms, playgrounds, schools, churches, etc.)

PSYCHO-SOCIAL CONDITIONS people in home (Note relatives and boarders not members of the immediate family)

Other special conditions; (describe any conditions of the home that might be pertinent)

VI CHILD'S BEHAVIOR

On this page describe the child's problem and behavior as given by the parent, teacher or other informant. Always indicate the informant

C. M. LOUTTIT

VII TEST PERFORMANCES

| BINET revision | | | | | | | | | | SUMMARY | | |
|----------------|---|---|---|---|---|---|---|---|---|---------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | test | score | ratio |
| II .. | | | | | | | | | | .. | .. | .. |
| III | | | | | | | | | | .. | .. | .. |
| IV | | | | | | | | | | .. | .. | .. |
| V | | | | | | | | | | .. | .. | .. |
| VI | | | | | | | | | | .. | .. | .. |
| VII | | | | | | | | | | .. | .. | .. |
| VIII | | | | | | | | | | .. | .. | .. |
| IX | | | | | | | | | | .. | .. | .. |
| X | | | | | | | | | | .. | .. | .. |
| XII | | | | | | | | | | .. | .. | .. |
| XIV | | | | | | | | | | .. | .. | .. |
| XVI | | | | | | | | | | .. | .. | .. |
| XVIII | | | | | | | | | | .. | .. | .. |

PORTEUS MAZE

FORMBOARDS

| | | name | 1 | 2 | 3 | %ile | age |
|------|-------|------|---|---|---|------|-----|
| III | X .. | | | | | | |
| IV | XI | .. | | | | .. | .. |
| V | XII | | | | | | .. |
| VI | XIV | .. | | | | | .. |
| VII | XVI | | | | | | .. |
| VIII | total | .. | | | | | .. |
| X | | | | | | | .. |

RESPONSES

(If necessary continue responses on other side of this page or separate sheet.)

PRE-SCHOOL TESTS

| name | placement | + | mos credit |
|------|-----------|---|------------|
| | | - | |
| | | | |
| | | | |

OTHER TESTS

special aptitude

Personality

Others

NOTES ON EXAMINATION

Child's attitude

Special abilities or deficiencies

A BLANK FOR HISTORY TAKING IN PSYCHOLOGICAL CLINICS

VIII. PHYSICAL EXAMINATION

ANTHROPOMETRIC: weight height sit ht.
 head; circum length brth ht
 chest; girth, insp. exp. v.c., 1.....2..... 3
 grip, rt. 1.2....3. . . . left, 1.....2. . . .3. . . .

 HEAD & NECK

 CHEST

 ABDOMEN

 genitalia

 EXTREMITIES. UPPER

 LOWER

 NEUROLOGICAL

 SENSORY

vision

audition

 other

 GLANDULAR—endocrines

 OTHER OBSERVATIONS

IX. DELINQUENCY

PRESENT OFFENSE

COURT judge

PREVIOUS OFFENSES

INSTITUTIONS & PROBATION

X. SPEECH DEFECTS

TYPE age onset

Circumstances at onset

Occurs more frequently when?

.

Sounds have difficulty with

Language spoken at home

Associates with speech defects

Structural defects

Other remarks

Chapter III

DIAGNOSTIC METHODS PSYCHOMETRICS

THE method of testing so-called intelligence is a contribution of psychologists in its origin and in much of its development. Unfortunately, there has been too much emphasis on such formal testing of the child, in the hope, at least in the minds of some workers, that such testing would afford an easy solution to many of the problems of childhood. At the present time there is a very decided change in this unwarranted attitude, and the tests have taken their place as merely a specialized technic of the psychologists. In fact, it is only in certain cases that test results play a major part in the diagnosis or recommendations for treatment, but in all cases they contribute a certain additional amount of information to the total picture. This information primarily concerns the individual child's performance ability, but beyond the values of the formal, numerical score the tests serve other useful purposes.

1. In some measure the responses of a child on the test are replicas of his responses to life situations. The child who cannot make change when asked, as part of a test, how much he should get when spending four cents and giving the storekeeper ten cents, will probably have a similar difficulty in life. The twelve-year-old child with a memory span of only four digits will probably evidence a poor memory in his school work, or at home. Attitudes also are suggestive. The child who eagerly attacks the problems presented, who endeavors to do his best, and who relies on his own abilities, will probably behave differently in all things than the child who is negativistic or resentful, or who is constantly demanding the assistance of the examiner or parent on the test.

2. The test results give an opportunity to compare the performance of the child with that of other children of his age and social status. Such possibility of comparison would seem to be a fundamental value in intelligence tests. There are no absolute measures of ability (and there is no good reason to believe there ever will be any). The length of a table is measured in terms of its relation to an arbitrary standard of length—the yard, meter, or other unit. The temperature of a body is

determined by its effect on a column of mercury or alcohol which is so arranged that it will expand along a scale of arbitrary units. The ability of a child in an activity cannot be measured in this manner, because there can be no arbitrary standards set up that will have the same validity under all conditions. The measurement is made by comparing the child's performance with that of other children usually of the same age, although other criteria for the group might be used, such as grade, race, sex, size, etc. This requires test performance scores for a large group of children, and certain statistical constants of the data, to serve as standards. Thus it is found that about 70 per cent of nine-year-olds are able to name the year, month, day of the week, and the date. A child who cannot do this and who is nine or more years of age is obviously lacking in at least this achievement.

3. During the time the examiner is giving a test or tests he has opportunity of observing the child's behavior. Often this behavior is very suggestive in leading to the discovery of the etiology of the particular problem. This value is illustrated in the following case where no significant information had been obtained from the mother until the child's test performance gave a cue. A six-year-old girl was brought into the clinic because she had made practically no adaptation to the first grade of the public school, although she had been in it for nearly a full semester. Since it was impossible to get any response from her on any tests when the examiner tried to see her alone, the mother was asked to sit in the examining room. The girl now showed more interest in the tests; but when given the Witmer form board, which she started to do with eagerness, her first simple error brought the response of turning to her mother, asking for help. On each subsequent block the same response was exhibited although the mother would not help her, and in each case the girl succeeded in placing the block in the proper recess without difficulty. This behavior immediately suggested that the girl even at six had not built up adequate habits of independent behavior. Upon questioning, the mother said that the girl had been waited on pretty consistently not only by her father and mother, but by three older sisters as well. In fact, at six years the girl could not dress herself; instead, someone had to dress her each morning so that she would get to school on time. Having failed to build up adequate independence, this little girl was having a difficult time adjusting to the vagaries of her six-year-old school companions.

4. The great variety of standardized tests at present available for

measuring many sorts of performance makes it possible for the examiner to gain a well-rounded picture of the child's ability. Tests that require verbal ability, that emphasize manual performance, that exhibit the presence or absence of motor control or speed, and discrimination of form and colors, are among those having adequate standardization.

Although tests do have a definite value in the examination, they may be used without judgment, and consequently at times do positive harm. There are still people who are willing to make a diagnosis on the basis of a single test result, and by their diagnosis label a person as feeble-minded, retarded, unstable, or what not. This is a criticism of the examiner, not of the examining tool. However, there are several points of caution that may well be emphasized.

1. The tests give only an approximate measure of the child's performance at a particular time and in terms of comparison with others. Great caution must be used in interpreting the results of tests without evidence from the child's everyday behavior for corroboration. For example, a boy of eighteen with a test performance of seven would on the basis of test result be called feeble-minded. Yet this boy is making an adequate living, and is a satisfactory workman to his employer. Certainly a diagnosis of feeble-mindedness in this case must be qualified in some way.

2. Any test is made to measure, however inadequately, only one thing, and must not be held responsible if it does not measure everything. Most of the tests about which we are concerned are measures of so-called general intelligence. They are useful only as indicators of the kind and degree of ability a child exhibits. The author once heard a psychiatrist, addressing a medical meeting, criticize the intelligence tests because, among other things, they told nothing about the emotional life of the child. On such reasoning as this, the physician had better dispense with his clinical thermometer because it doesn't tell him the patient's blood pressure, or, turned the other way around, the sphygmomanometer should be discarded because it does not give temperature. If the analogy were continued far enough, modern diagnostic tools would all be thrown into the scrap basket. Yet there is a certain amount of truth in the criticism. Too often untrained or partly trained examiners are apt to consider the intelligence test results as being the best and final criterion of a child's behavior.

3. A further caution regarding the results of testing must be given. In spite of all attempts to make testing objective, whenever one indi-

vidual is questioning another there are inevitable subjective factors which enter. These factors operate usually to reduce the scores. It is a safe assumption in all testing that whatever score a child secures is certainly not too high. About the only means of securing a fictitiously high score, one that could not be made on a second trial, is by coaching. This is so infrequent that attention must be paid to the possibility only in extremely rare cases. The possibility of a fictitiously low score on any one particular examination is, however, very great. The personal manner and attitude of the examiner, the subject's physical and mental condition, disturbing stimuli in the physical environment, interruptions during the examination, inadequate preparation of the examiner, language difficulties of the subject, all may operate to reduce the child's performance record. Bronner (1916) has described cases illustrating several attitudes that affect performance on intelligence tests. Included in her list are (a) deliberate deception, (b) recalcitrancy; (c) sportiveness (lack of seriousness); (d) emotional disturbances, including general depression, anger or resentfulness, fear, sheepishness or feeling of shame, shyness, embarrassment because of on-lookers, homesickness, mental conflict; (e) general nervous excitement, (f) lack of confidence, and (g) a combination of these or other causes not easily analyzed. Therefore, interpretation of the test scores must be based on the possibility of influence from such factors. There appears to have been little systematic and extensive exploration of such influences on the child's performance, but the available evidence warrants caution in interpreting test results when such factors are operative.

Primarily, every test measures a certain type of performance of a certain child at a certain time. The performance may be verbal or manual, may involve visual, cutaneous, kinesthetic or auditory sensitivity; may be influenced by emotional conditions, physical status, or other factors. The performance of this child at this time is no guarantee that a future performance will be exactly the same, or that his success will be of a similar degree on another type of test. However, experience and experiment have given us some data by which to predict performance from one test to another within certain limits. The child passes a test at a certain level. From past experience it is known that the ratio of this level to the expected level of performance at that age will remain approximately the same throughout the child's developmental period if there are no extreme changes in either his environment or his physical condition. This ratio is usually called the I.Q.

(see page 54). In concrete terms this means that the five-year-old child who has a 2.5-year performance has an I.Q. of 50 and at the age of fourteen or fifteen or more will have approximately the same ratio, and therefore a performance level of around seven years. In most school systems this is about the age of children in the first or second grade. The probabilities are against our individual achieving much beyond these grades in academic work, and, in turn, this will usually set limitations on his future occupations. Later we shall discuss this predictive value of test results in greater detail, but first we must turn our attention to some of the more frequently used tests.

While intelligence tests may be classified in many different ways, attention is here called to only two. Some tests are so made that they can be given to only one individual at a time. Other tests may be given to ten, twenty or almost any other number of persons at once. The first type is called *individual tests*; the second, *group tests*. In both kinds some tests may require a high degree of language facility both in understanding directions and in the subject's response. Others, both individual and group tests, require a minimum of language; the directions may be given verbally or in pantomime, and the responses require only manual performance, marking, or the like. The first in this classification are called *language* or *verbal* tests, the second are called *performance* tests, which may be further divided into non-verbal when directions are given by language, and non-language when the directions are given in pantomime.

In clinical practice any type of test may be found useful. Usually, however, individual tests of both language and non-language types are used. The Binet is the most frequently used individual language scale, and the Porteus Maze is the most commonly used individual non-language scale. A varied assortment of form boards is in use in different clinics. In addition to these so-called intelligence tests there are a number of educational achievement tests, aptitude scales, and personality and behavior schedules used. We shall describe the Binet and Porteus tests in some detail. For the others we can only give the information most pertinent to their use as clinical tools.

BINET TEST

In a recent survey of psychological clinics made by the Clinical Section of the American Psychological Association (1935), it was found

that the most frequently used test was the Stanford revision of the Binet. This primacy would be retained and probably emphasized if a survey were made of all test users in this country. For this reason, our discussion of the Binet will concern this particular revision.

Alfred Binet, a French psychologist who had previously done much important work in several fields of psychology, was appointed by the authorities of Paris to devise means of selecting, from the children in the city schools, those who could not profit by the work and were found to reduce efficiency of the teachers and of the other children. After several years of work, with the assistance of Th. Simon, a test scale was first published in 1905. This consisted of a list of thirty tasks to be performed by the child, and was made with the primary idea of selecting the subnormal. In the first revision of the test published in 1908, Binet introduced the method of grouping the test items by age. For each age from three to thirteen there was a varying number of items in the group. The score was determined by adding extra credit to the age of the group where all, or all but one, of the items were passed. This credit was always for a whole year for each five or six items passed. The smallest unit Binet used was one-half year. These were two defects which Binet soon recognized and corrected in the revision of 1911. This retained essentially the same items for years III, IV, and V, but made some changes in the higher years. Now each age group had five items, the age groups for years XI and XIII were omitted, and groups for XVI and adult added. The scoring scheme was changed so that the child received credit for every item passed in any year.

The possible values of such a scale were soon recognized by workers in many countries. Goddard was the first in the United States to utilize such tests. He translated both the 1905 and the 1908 scales, and in 1910 first used them in the Training School at Vineland, N. J. Between this time and 1916 several different translations and revisions of the Binet scale were made. In the latter year Terman published the *Stanford Revision of the Binet-Simon Test*. As we have already said, this has been the most widely used form of the scale—in fact, of any test of intelligence.

The Stanford revision of the Binet is a scale of 90 test items grouped into twelve groups: for each year from III to X, XII, XIV, average adult, and superior adult. These last two are called XVI and XVIII

years, but the actual value is sixteen years six months and nineteen years six months, respectively. For each age group there are six items with one or two alternatives, except in year XII where there are eight items and no alternatives, and in the superior adult group which has only six items.

The tasks which make up the test range from simple ones such as pointing to parts of the body and naming familiar objects in year III, to solving mentally the following problem in the superior adult group:

A mother sent her boy to the river and told him to bring back exactly seven pints of water. She gave him a three-pint vessel and a five-pint vessel. Show me how the boy can measure out exactly seven pints of water, using nothing but these two vessels and not guessing at the amount. You should begin by filling the five-pint vessel first.¹

Because of the wide familiarity with this test and the ease with which the testing materials may be secured, there appears to be no reason for reproducing it here. Terman's (1920) *Condensed Guide* and the set of testing material published by the Houghton Mifflin Company are both absolutely essential for giving this test. In addition to the printed cards in the regular set of testing material there are a few materials, e.g., weighted blocks, set of coins, shoe string, etc., which must be secured elsewhere. Terman's (1916) *Measurement of Intelligence* gives a complete discussion of the theory, standardization, use, and value of the test. It may also be used as a testing manual as the complete directions are given, together with samples of correct responses and a discussion of the value of each item. The same publisher also issues three different kinds of record blanks for the test: a twelve-page Record Booklet giving complete directions and having ample space for completely recording responses; a four-page Record Form giving directions sufficient for an experienced examiner; an 8½ x 11 abbreviated Filing Record Card with only suggestive directions and no space for responses. The four-page blank is the most useful, but all are expensive. In the Indiana University Psychological Clinics we have found that ruled forms with blank sheets for recording responses, as described in the preceding chapter, are entirely satisfactory.

The examiner presents to the child, usually in an irregular order, tasks suitable for his age and ability. The objective is to afford the

¹ Reproduced from L. M. Terman, *Record booklet for the Stanford revision of the Binet-Simon tests* by permission of Houghton Mifflin Company.

child an opportunity to pass as many items as possible. To do this, all numbered items are given from, and including those in, the year in which the child passes all, up to and including the year in which he fails all. For example, a boy passes all in the fifth year, four tests in year VI, two in VII, one in VIII, and none in IX. In this case the years V and VIII define the boundary of the child's spread or range. The first of these is called the basal age, usually defined as the highest year in which the child passes all of the items. It is assumed that all items below this age could be passed. It sometimes occurs that a child passes all of the items in one year, but fails one or more items in the next lower year. According to the above definition, the higher year would be called the basal age. But too strict adherence to this definition hardly seems wise. Surely a child who fails several items in any year should be penalized for his failure. A single failure is usually disregarded by the present writer, but if there are two or more, the next lower year may be taken as the basal age, e.g., if all items in year VI are passed, but one is failed in year V, then VI is considered basal, while if there are two or more failures in V then year IV is the basal. It is sometimes found that a child can pass one or more items in a higher year than the upper boundary of his range, e.g., he fails all of year IX but passes one in year X. In such cases the proper credit should be given.

It is permissible, but probably not most desirable, to give the items in strict sequence, e.g., all of year V, then all of year VI, and so on. The better method is to skip from year to year and, in addition, to keep similar tasks together. Some simple rules, like those listed below, might well be followed.

1. Start the test with an item which is easy enough to insure success. For arousing interest and establishing rapport the first items given might better be non-verbal, especially with younger children.

2. The year group in which to start may be determined approximately from the child's chronological age and *a priori* indications of ability. If the first item given is passed, give one in the next higher age group, if it is failed, drop down to the next lower group. By adhering, at least approximately, to the practice of going up with successes and back with failures, the range may be more quickly determined. Thus, time will not be used in giving tests in age groups which are much too easy or too difficult.

3 Keep similar tasks together. Thus, give all the items of forward digit span at one time, starting at a level low enough that the child will certainly pass. The same applies to other types of problems that occur at different age levels, e.g., digits reversed (but this should not immediately precede or follow the digits forward), comprehension, vocabulary, repeating sentences, similarities, differences, and so on.

4 If the child has failed two or three items in succession, and particularly if he is sufficiently self-critical to be aware of his failure, present one or two easy items so that his success may reestablish confidence.

The items on the Binet are placed in their respective age groups on the basis of passes by children in the standardization group. Therefore, an average six-year-old child might be expected to pass all of the six-year tests and none higher. As the items vary a good deal in the performance required, it is very rare that a child fails all items higher than his basal age. There is usually a spread, as previously described. To score a performance it is necessary to reduce all passes to one score. This is done by adding to the basal age a certain number of months credit for all items passed above the basal age. The credits to be given for the various items are shown in Table IV.

TABLE IV — CREDITS ON STANFORD-BINET TEST

| Year Groups | Number Items | Months Covered | Months Credit |
|------------------------|-----------------|-------------------|------------------|
| III to X | 6 | 12 | 2 |
| XII | 8 | 24 | 3 |
| XIV | 6 | 24 | 4 |
| XVI (average adult) | 6 | 30 | 5 |
| XVIII (superior adult) | 6 | 36 | 6 |

It must be noted that up to XIV the years covered are even, but the group labeled XVI really covers 30 months and therefore is equivalent to sixteen years and six months; while year XVIII covers 36 months and is equivalent to nineteen years and six months. Unless this irregularity is carefully noted, errors will occur in scoring performances in which all of the items in either years XVI or XVIII are passed. A rule somewhat easier to remember is: if all of year XIV is passed, use it as the basal age, regardless of how many items are passed in the higher years.

Some examples will make the scoring method clearer

| | | |
|---|------------------|------|
| A | Basal age | 5 |
| | 3 passed in VI | 6 |
| | 1 passed in VII | 2 |
| | 0 passed in VIII | |
| | | — |
| | | 5-8, |

| | | |
|---|-----------------|-------------------|
| B | Basal age | 8 |
| | 4 passed in IX | 8 |
| | 3 passed in X | 6 |
| | 1 passed in XII | 3 |
| | 0 passed in XIV | |
| | | — |
| | | 8-17, or |
| | | 9 years, 5 months |

| | | |
|---|-------------------|--------------------|
| C | Basal age | 14 |
| | 6 passed in XVI | 30 |
| | 3 passed in XVIII | 18 |
| | | — |
| | | 14-48, or |
| | | 18 years, 0 months |

| | | |
|---|------------------|-------------------|
| D | Basal age | 6 |
| | 4 passed in VII | 8 |
| | 2 passed in VIII | 4 |
| | 0 passed in IX | 0 |
| | 1 passed in X | 2 |
| | 0 passed in XII | |
| | | — |
| | | 6-14, or |
| | | 7 years, 2 months |

These scores are usually spoken of as the mental age, M.A., but as several tests are scored in similar terms it is better to qualify by calling these scores Binet M.A., or, as the late Dr H. H. Young called it, the B.T.A., i.e., Binet Test Age. The M.A. is a measure of the child's performance level in terms of the median performance expected of an unselected sample of children of that chronological age.

If we compare two children—one of six years C.A. who has an M.A. of five years, and one of twelve years who has an M.A. of eleven years—it is evident that, while the absolute retardation is the same in both cases, the younger child is relatively more retarded. We express this relation of the child's M.A. to his C.A. as the I.Q. (intelligence quotient), which is defined as:

$$I.Q. = \frac{M.A.}{C.A.} \times 100$$

Here again the value secured should be qualified by calling it a Binet I.Q. to distinguish it from similar values obtained with other tests.

Under certain circumstances this formula for the I.Q. is not suitable; in fact, it is questionable whether, under these circumstances, the I.Q. has any meaning at all. As we have shown above, the highest score obtainable on the Binet is nineteen years and six months. All tests have similar upper limits. If we are to suppose a man of 19.5 years to pass all of these items he would, according to our formula, have an I.Q. of 100. In ten years, however, he would have an I.Q. of only 66 because

he cannot get a higher M.A. than 19.5. But this limit is not set alone by the test. There is a yearly increase in the abilities necessary to pass intelligence tests successfully, just as there is a yearly increase in height. But just as a person usually stops increasing in height during adolescence, so we find the "test ability" slowing up in the same period. Terman (1916) suggested that the "test ability" of adults would average sixteen years; therefore, in calculating I.Q.'s for adults 16 should be used as the divisor. Later work has seemed to indicate that this value is too high and that 14 used as the upper limit is more satisfactory in calculating adult I.Q.'s. At the 1935 meeting of the Clinical Section of the American Psychological Association a committee on adult I.Q.'s reported that this ratio was probably not satisfactory for adolescents or older persons, but that, until a substitute was offered, the best procedure would be to use 14 as the divisor. In practice, the I.Q. of any individual older than fourteen years is calculated as though he were fourteen years of age.

Interpretation of the Binet—The scores we have described are of value in quantitative interpretation. The M.A. or I.Q. as a mere number has no meaning. Most decidedly we must avoid thinking of these values as having a relation to some arbitrary unit as have the gram and meter. They have meaning only in relation to known values on large numbers of children. The following table gives the classification of I.Q. values which has been in wide use since it was first published by Terman (1916):

| | |
|-----------|---|
| above 140 | Near genius or genius |
| 120-140 | Very superior intelligence |
| 110-120 | Superior intelligence |
| 90-110 | Normal or average intelligence |
| 80-90 | Dullness, rarely classifiable as feeble-minded |
| 70-80 | Border-line deficiency, sometimes classifiable as dullness, often as feeble-minded |
| below 70 | Definite feeble-mindedness |

There is reason to believe that these values are too high, especially for the higher feeble-minded and lower normal groups. In this borderline range so many factors affect the social adjustment of the individual, which in the last analysis must be the criterion of feeble-mindedness, that a modified scale of values is necessary. No generally accepted scale has been published, but the rather flexible I.Q. classification used for first approximation in the Indiana University Psychological Clinics suggests modern tendencies. This classification is:

| | |
|----------------|-------------------------------|
| 0 to 15-20 | Idiot |
| 15-20 to 45-50 | Imbecile |
| 45-50 to 60-65 | Moron |
| 60-65 to 70-75 | Border-line |
| 70-75 to 80± | Very low normal |
| 80± to 85± | Low normal |
| 85± to 90± | Slightly below average normal |
| 90 to 110 | Average |
| 110 to 115 | Slightly above average normal |
| 115 to 130 | Superior |
| above 130 | Very superior |

The boundaries between each of these groups are intentionally made to overlap. In the lower group this overlap is expressed by ranges for the boundaries, and in the middle range by use of \pm to indicate variation of a few points above or below the value given. A similar indetermination of boundary is true in the average and superior groups, but here its clinical importance is not so great. Thus is indicated the fact that hard and fast divisions between groups on the basis of I.Q.'s cannot and should not be made.

For children, at least, the value of these scores lies particularly in the possibilities of predicting school achievement. Table V shows the relation of M.A. to grade placement for schools having six years as the entering age. Educational expectations of children with different I.Q.'s are suggested by the data in this table.

TABLE V —MENTAL AGE STANDARDS FOR THE DIFFERENT GRADES

| Grade | Beginning | Average M A at Mid-grade | End |
|-------|-----------|-----------------------------|------|
| I | 6-6 | 7 | 7-5 |
| II | 7-6 | 8 | 8-5 |
| III | 8-6 | 9 | 9-5 |
| IV | 9-6 | 10 | 10-5 |
| V | 10-6 | 11 | 11-5 |
| VI | 11-6 | 12 | 12-5 |
| VII | 12-6 | 13 | 13-5 |
| VIII | 13-6 | 14 | 14-5 |
| H S I | 14-6 | 15 | 15-5 |

If we consider fourteen as the average mental age of adults, then we may interpret the values of various I.Q.'s in terms of school achievement, as shown in the following paragraphs.

The child with an I.Q. below 50 will have a maximum ultimate M.A. not over seven or eight years. Therefore he will probably never do first-grade work adequately, and it is probably useless to start such

children in the public school. With I.Q.'s in the 50's we may expect nothing higher than second-grade achievement.

Children with an I.Q. of 60 to 65 are usually severely retarded in school. At the age of six their mental ability is only four, barely over half of that required for the first grade as shown in Table V. After ten years of struggle, when the child has reached the upper age limit for school attendance, his mental ability will then be only about nine years, or the median mental age for grade three. However, he will probably begin fourth or fifth grade largely because of his size—certainly not because of his achievement.

With an I.Q. in the 70's a child's ultimate educational achievement is probably to be placed at about the fourth or fifth grade. Seldom does he get beyond this point, regardless of the time he stays in school.

Those children with I.Q.'s from 80 to 89 have an ultimate mental age ranging from eleven to thirteen years. This means that they can probably be expected to complete the seventh or maybe the eighth grade, especially if they are given some special attention.

The range of average I.Q.'s from 90 to 110—or, as some authorities divide it, from 95 to 105—includes those children who make up the bulk of the school population. Those at the lower end of the range frequently have difficulty in high school if they ever finish eighth grade, while those at the upper end represent the average of high school graduates.

Children with I.Q.'s higher than 110 of course represent a superior group. Those with I.Q.'s less than 115 may have some difficulty in college. But for those in the still higher levels achievement is limited only by opportunity and effort.

In our social culture, occupational adjustment depends to a rather large degree upon school achievement. Therefore, we may indirectly make some prediction in respect to vocational success from academic predictions given above. More directly, certain investigators have roughly determined the sort of work that may be engaged in by persons of certain I.Q. or M.A. levels. In Table XIX we have summarized some of the findings. It must be remembered that there will be some individuals who may exhibit school achievement greater than would be expected from their ability level, and also some who may be successful in jobs that presumably require more ability than their test performance would credit them with.

OTHER REVISIONS OF THE BINET

While the Stanford revision of the Binet is the one in most widespread use, there are others which have their warm advocates

The Point Scale, published by Yerkes, Bridges and Hardwick (1915) and later revised by Yerkes and Foster (1923), has some advantages over the more common Binet type tests, but since the publication of the Stanford revision, it has not been used as extensively as it deserves. Instead of the test items being arranged in age groups, the scale is composed of one list of twenty tests, all of which are presented to the subject. Point credit is given for all successes, with the maximum score at 100. The point scores may be equated to median performance for C A, and a ratio similar to the I Q calculated

The Kuhlmann Revision—Kuhlmann's (1922) second revision of the Binet is similar in general form to the Stanford. It has eight items per year instead of six, and extends the scale down to include items for three, six, twelve, eighteen, and twenty-four months. This extension of the scale is particularly valuable, and its application to pre-school children has been critically evaluated by Goodenough (1928).

The Herring Revision—Herring (1922) devised a scale using a point system of scoring and similar, but not identical, material to the Stanford-Binet. This author reports a correlation of .98 between the Stanford-Binet and his test. The series of questions are arranged in five groups; success in the first of these determines what items are to be given in the higher groups.

The Vineland Revision.—Porteus and Hill (1920) have published a revision which differs from the Stanford in the relocation of some items, especially in the higher years

PORTEUS MAZE TEST

There are a number of criticisms of the Binet test that we need not discuss at the present time, but this comment from Porteus (1915) is pertinent. "The conclusion seems to be that the Binet-Simon tests favor the trained over the untrained, and the superficial, bright, loquacious child, ready to have a try at anything, over the unresponsive subject whose mental gifts may be of the more solid, though less showy order." He then suggests that certain aspects of ability which the Binet-type tests do not attempt to examine, e.g., prudence, forethought, and power of sustained attention, might be sampled by suitable tests.

For this purpose, Porteus offers a graded series of mazes which may prove to be a "somewhat valuable supplement to, and partial corrective of, the Binet-Simon Scale."

Since these tests were proposed, over fifteen years ago, there have been critics who accuse Porteus of claiming too much for them. However, the evidence assembled in his most recent book (1933) more firmly establishes their clinical usefulness. If further evidence were needed, recent surveys made by both the Clinical Section of the American Psychological Association and the California Bureau of Juvenile Research (Fenton and Wallace, 1934) show that the Porteus Maze is second in the number of clinics regularly using it. It must be remembered that the Porteus Maze cannot, nor did the author ever claim it could, supplant tests of the Binet type. Louttit and Stackman (1936) have summarized the literature on the relations between the two tests and conclude that, while there is a paucity of experimental evidence, the available data suggest that the Binet and Porteus tests are supplementary. Furthermore, performance on the maze scale gives indications of traits that may be entirely concealed in the performance in other sorts of tests.

The maze test consists of a series of successively more complex mazes to be traced directly on the test sheet with a pencil. Examination of the series indicates the increasing complexity but basic similarity of the tasks. At years III and IV the figures are a double-lined diamond and a cross, respectively, which are used for practice. The test series starts with year V and there is one maze for each year to XII, then for year XIV and Adult I. The maze for each year is printed on a separate sheet and the test is sold in pads of 100 copies.² This facilitates the presentation of the test, and affords an exact permanent record of just how the subject performed.

The test series is always started with year V, because the standardization is for the series as a whole; in other words, the practice at the lower ages is important. Successive mazes are presented until the subject fails any three tests or two successive ones above year VIII. Two trials are allowed at each year to XI, and four trials on each of the higher mazes. An error consists of drawing the line across an imaginary boundary to a closed path, or in crossing a printed line. When such an error is made, that trial is stopped and the subject begins

² These test pads are prepared and sold by the Training School at Vineland, N. J.

again on a new blank. Two such errors for a single year constitute a failure. Further details of method and presentation may be found in Porteus (1933).

The score on the maze is expressed in terms of a performance age, which may be called a maze age or maze mental age. This is often expressed as a Porteus M A. For each test from V to XI passed on the first trial one year credit is given, but if passed on the second trial only one-half year credit is given. These are added to a constant basal year of IV because, as we have said, the test always begins with year V no matter what the age of the subject.

On tests XII and XIV, four trials are allowed. If only XII is passed, on the first, second, or third trial one year credit is given, and one-half year if it is passed on the fourth trial. If only XIV is passed, credit is allotted as follows:

| Trial | Credit |
|-------|-----------|
| 1 | 2 0 years |
| 2 | 1 5 " |
| 3 | 1 0 " |
| 4 | 0 5 " |

If both XII and XIV are passed, the number of trials on each test are added and credit is allotted thus:

| Trials | Credit |
|--------|-----------|
| 2 | 4 0 years |
| 3 | 3 5 " |
| 4 | 3 0 " |
| 5 | 2 5 " |
| 6 | 2 0 " |
| 7 | 1 5 " |
| 8 | 1 0 " |

The adult test is given only under certain conditions, viz., (a) if subject is over twelve years of age, (b) if the sum of trials on tests XII and XIV is not more than three, and (c) if all tests below XI were passed on the first trial. If these conditions are met, credit is given thus:

| Trials | Credit |
|--------|-----------|
| 1 or 2 | 2 0 years |
| 3 | 1 5 " |
| 4 | 1 0 " |

If, after failing to solve one maze in the prescribed number of trials, a subject succeeds in the next higher year, the latter test should be inverted and presented as a new test. Whenever a test is inverted

the poorest record made by the child in the two applications is recorded; in other words, penalty for error is imposed whether incurred on either, but not both, original or the inverted application. Thus, the child who fails the ten-year test, succeeds in the eleven-year test on the first trial, but takes two trials when the eleven-year test is inverted, has these two trials scored against him, i.e., only six months credit.

A ratio analogous to the Binet I.Q. may be calculated from the maze age by dividing it by the C.A. While this ratio, the M.Q., has a similar meaning in relation to achievement on the maze test, it cannot be used in predicting school success in the manner of the Binet I.Q.

TABLE VI—COMPARISON OF SOCIALLY ADJUSTED AND MALADJUSTED CHILDREN ON THE PORTEUS MAZE AND BINET TESTS

| Author | Maze I.Q. | | Binet I.Q. | |
|---|------------------|---------------------|------------------|---------------------|
| | Adjusted Average | Maladjusted Average | Adjusted Average | Maladjusted Average |
| Porteus (1917) | 97.7 (7) | 74.8 (6) | | |
| Poull and Montgomery (1929) | 64.1 (81) | 55.48 (72) | 63.0 (81) | 63.25 (72) |
| Karpeles (1930) | 94.31 (185) | 86.04 (185) | 86.2 (185) | 84.1 (185) |
| Karpeles (over 80 I.Q.) | 100.55 (123) | 89.5 (123) | 94.45 (123) | 93.6 (123) |
| Average first three rows calculated by present author | 85.43 (273) | 77.42 (263) | 79.17 (266) | 78.26 (257) |

(Number of cases upon which each average is based shown in parentheses)

Interpretation—Porteus (1933) remarks that while success on the maze may be accidental, failure very rarely is. By an accidental success is most probably meant a successful solution of a given test which cannot be repeated. He suggests factors which may lead to failure, such as impulsiveness, irresolution, heedlessness, overconfidence, impetuosity, mental confusion or lack of forethought. It is evident that the subject who exhibits such traits as these will have difficulty in successfully bringing to bear his abilities and skills in the problems of everyday adjustment. The interpretation of maze test performance then must rest on evidence that such traits of instability do lower the performance score. Unfortunately, there has been much less experimentation with the maze than with the Binet. However, the work that has been done, as exhibited in Porteus' (1933) summary, is in

"fair" agreement. Evidence of a differential between the scores of socially adjusted and socially maladjusted children is summarized in Table VI. In the three studies the maladjusted children consistently have lower Porteus scores, while the Binet scores do not show a difference. In the combined averages as calculated by the present author, the comparisons are accentuated.

Porteus (1922) intimates that his maze test is of somewhat greater value in border-line diagnosis than the Binet, and that an average of the two has greater value than either. This claim is based on the following correlations secured from measurement of institutionalized feeble-minded boys:

| | | | |
|---------------------|----|---------------|----|
| Industrial ratings | vs | Porteus | 77 |
| Industrial ratings | vs | Binet | 62 |
| Industrial ratings | vs | Porteus-Binet | 77 |
| Social adaptability | vs | Porteus | 55 |
| Social adaptability | vs | Binet | 50 |
| Social adaptability | vs | Porteus-Binet | 66 |

Correlation on the same subjects between these tests and educational attainment indicates the low relationship between the Porteus and academic achievement. The coefficients are:

| | |
|---------------------------------------|----|
| Educational capacity vs Porteus | 27 |
| Educational capacity vs Binet | 64 |
| Educational capacity vs Porteus-Binet | 47 |

PERFORMANCE TESTS

Perhaps the chief criticism of tests of the Binet type is that they place a decided premium on facility in the use of language. The directions are given verbally and many of the responses are oral. As we have already mentioned, Porteus considers that his maze test is a useful supplement to the Binet because, for one reason, it is not subject to this criticism. But before the maze test was published—in fact, before the first Binet-Simon scale was published—another type of non-language test was proposed. This was the form board, first devised by Seguin for training the feeble-minded, and later used by Norsworthy (1906) in examining mentally deficient children. Subsequently other form boards as well as other types of manipulative performance tests were devised.

According to the survey of Fenton and Wallace (1934), tests of the type to be discussed in this section are used by as many clinics as use the Binet. No fewer than fifteen of these tests are in use in from one to

six different clinics. This gives a pragmatic support to the claims that the form board is a valuable, perhaps the most valuable, clinical tool.

(Witmer (1911) says, "The form board tests the ability of a child to place rapidly blocks of various shapes into recesses of corresponding form. It very quickly gives the experimenter a general idea of the child's powers of recognition, discrimination, memory and coordination. Repetition of the experiment often leads to conclusion as to his ability to learn." Young (1916a) says, "The form board (among other things) should give sufficient indication of the subject's weaknesses and capacities to enable the examiner to proceed directly to the specific tests necessary for confirmation and quantitative measurement." He presents the following list of physical and mental factors that may be observed in the child's form-board performance, with the claim that form-board ability is in no sense unitary, that rather successful solution might depend upon any combination of these or other factors:

| | |
|-------------------|------------------------|
| Physical adequacy | Imagination (general) |
| Anatomical | Imageability |
| Functional | Associability |
| | Complexity |
| Vitality | Imagination (specific) |
| Energy | Observation |
| Rate | Understanding |
| Fatigability | Planfulness |
| Health | Intelligence |
| | Form perception |
| Movement | Memory |
| Control | Trainability |
| Coordination | Retentiveness |
| Initiative | |
| Dexterity | Attitude |
| Complexity | Adaptability |
| Vivacity | Assurance |
| Attention | Competitiveness |
| Concentration | Painstakingness |
| Persistence | Poise |
| Distribution | Shyness |
| Alertness | Tractability |
| Interest | |
| | Sensitivity |
| | Auditory |
| | Visual |
| | Cutaneous |
| | Kinesthetic |

It is suggested that the items on this list might be rated on a five-point scale. This has important possibilities, but, unfortunately, Young is not at all clear as to evaluation methods upon which to base ratings.

Much of the value of the form boards or other tests in the present group lies in this qualitative observation. Some children with quick, accurate perception see the relationships at a glance, and place blocks or parts in their proper places in a swift, workmanlike fashion, while others whose quantitative score may be almost as good use a trial-and-error method, working quickly perhaps, but showing little insight. Still others may use a trial-and-error method, but in a haphazard fashion, neglecting one block or piece because it does not immediately fit and trying another one. Perhaps the poorest type of performance is seen in very young children and more especially in defectives, when the subject is content to place blocks in any hole, and, having placed them, perhaps not a single one correct, sits back with an air of complete satisfaction over a task well done.

While there appears to be general agreement as to the value of these manipulative performance tests, especially in the way of qualitative observation of the performance, there has been little attempt to quantify any of the aspects except a total gross score. For the present, experience in observing many types of individuals performing on these tests appears to be the only way of securing the maximum advantage from their use.

There are many more or less well-known tests of the type under consideration. In Table VIII we have listed only 36 of the better-standardized or more widely used kinds. For convenience in discussion we may classify these tests into several types. (1) form boards, (2) picture completion, (3) construction, and (4) miscellaneous.

Form Boards—These are tests which require the subjects to replace geometrically shaped blocks in correspondingly shaped recesses. The number and shapes of blocks and recesses vary in the different form boards. Since the directions for giving the tests and the scoring methods are essentially the same in each, we shall describe the Witmer form board in detail as an example.

The prototype of all form boards was devised, as has been mentioned, by Seguin for use in training feeble-minded subjects. This original has been modified by a number of different investigators. The most common modifications are by Goddard (1912) and by Witmer (1911).

The Witmer modification is a smaller board than the Goddard and is therefore somewhat easier for children to work with. It is approximately square, and is divided into a 14 x 20-inch area containing eleven geometrically shaped recesses and a 6 x 20-inch tray. The board is

placed with the tray away from the subject. Three trials are given, with changes in method of block removal and directions thus:

First trial Remove blocks in haphazard order and put in tray The directions given while removing the blocks are: "I'm going to take these blocks out and put them up here I want to see how quickly you can put them back where they belong" Second trial Blocks are arranged in three piles with the blocks in order from top to bottom as listed. The diamond, oblong and equilateral triangle in the center; the semicircle, truncated lozenge, isosceles triangle, and star to the left of the subject; the square, circle, oval, and cross to the right of the subject. The directions are: "Put them back and do it faster this time." Third trial The child is allowed to remove the blocks in any manner he chooses The directions are the same as in the second trial.

On all trials the subject is allowed to use both hands. In using this board at our clinic we have found that most children use only one hand, and Simmons (1933) has presented evidence that one-hand performance is a little more consistent than two-hand The score is the time in seconds that it takes the subject to complete the replacement, measured from the moment he picks up the first block to the moment the last block falls into place. This time should be taken with a stop watch

The raw time scores vary among individuals and with age. It is therefore necessary to convert them into some type of derived or secondary score, which is usually, in the case of time scores, a percentile. If we give a form board or any other sort of test to 1000 children of a single age the scores will vary a great deal. Some children will be extremely slow, others will be very fast, and the majority will group themselves about a mid-score which is the average. The thousand scores can be arranged in order from the slowest to the fastest This series can be divided into ten groups of 100 each Then the 100th score is called the first decile or the tenth percentile. It represents the score which 10 per cent of the cases equal or are inferior to, while 90 per cent exceed it Similarly we find the 25th, 44th, 89th or any other percentile. In Table VII are presented, in condensed form, percentile norms for the Witmer form board, only the 20th, 50th (median) and 80th percentiles being given. The table is read as follows. A boy eight years and seven months of age takes 32 seconds on the first trial Find the age in the left-hand column and in the section for males find the score or the one nearest to it. In this case the boy's performance is

exactly at the median or 50th percentile for boys between the ages of eight years six months and eight years eleven months. Suppose a

TABLE VII—CONDENSED NORMS FOR WITMER FORM BOARD, FIRST TRIAL TIMES

| Age Groups | | Males | | | | Females | | | |
|------------|------|----------|----------|-----|-----|----------|----------|-----|-----|
| Yr | Mo | No Cases | 20% | Mdn | 80% | No Cases | 20% | Mdn | 80% |
| 4 | 0-5 | 16 | <i>F</i> | 91 | 65 | 27 | <i>F</i> | 120 | 67 |
| 4 | 6-11 | 30 | <i>F</i> | 92 | 59 | 35 | <i>F</i> | 88 | 63 |
| 5 | 0-5 | 74 | 113 | 73 | 52 | 44 | <i>F</i> | 86 | 57 |
| 5 | 6-11 | 51 | 93 | 60 | 41 | 61 | 102 | 61 | 42 |
| 6 | 0-5 | 103 | 91 | 50 | 38 | 113 | 117 | 60 | 45 |
| 6 | 6-11 | 122 | 65 | 47 | 34 | 119 | 90 | 51 | 38 |
| 7 | 0-5 | 135 | 57 | 44 | 33 | 119 | 62 | 45 | 35 |
| 7 | 6-11 | 143 | 52 | 39 | 30 | 137 | 60 | 45 | 33 |
| 8 | 0-5 | 77 | 52 | 34 | 28 | 78 | 41 | 33 | 28 |
| 8 | 6-11 | 73 | 45 | 32 | 26 | 64 | 44 | 35 | 26 |
| 9 | 0-5 | 75 | 39 | 30 | 24 | 68 | 41 | 31 | 25 |
| 9 | 6-11 | 90 | 37 | 28 | 22 | 72 | 39 | 27 | 21 |
| 10 | 0-5 | 62 | 32 | 26 | 22 | 64 | 36 | 27 | 22 |
| 10 | 6-11 | 66 | 33 | 25 | 20 | 70 | 32 | 28 | 22 |
| 11 | 0-11 | 133 | 31 | 25 | 21 | 155 | 32 | 25 | 22 |
| 12 | 0-11 | 181 | 30 | 24 | 19 | 164 | 31 | 25 | 20 |
| 13 | 0-11 | 137 | 26 | 22 | 18 | 146 | 29 | 23 | 19 |
| 14 | 0-11 | 100 | 28 | 21 | 17 | 73 | 28 | 22 | 19 |
| 15 | 0-11 | 47 | 27 | 21 | 17 | 31 | 31 | 22 | 18 |
| Adult | | 121 | 23 | 19 | 16 | 103 | 22 | 18 | 15 |

(Norms condensed from Young and Young [1933]. Italicized numbers are based on less than 50 cases.)

ten-year-old girl takes 35 seconds. In the table we find that the 20th percentile for ten-year-old girls is 36 seconds, therefore our subject is approximately at the 20th percentile. As these norms are based on the performance of relatively few children it is not necessary to require too great exactitude. More complete norms are given by Young and Young (1923); while they are statistically unsatisfactory, they are the only ones available.

There is another possible way of interpreting form-board time scores. The median value may be roughly interpreted as the average performance age for that chronological age. While not statistically valid, it is clinically useful to equate a given child's performance to the median performance for the same age. Thus the ten-year-old girl mentioned earlier took 35 seconds on her first trial. This performance is equal to the median for the last half of the eighth year. We may say that her performance age is approximately eight and seven or eight

months. We can compare this to her own chronological age just as we did with the Binet and maze scores. One word of caution: the available norms are not very satisfactory, and there is no statistical justification for the procedure we have described. Therefore, interpretations of Witmer form-board performance must be made carefully and only in connection with other test results. The same precautions must be taken in using the scores on any form board, although some have more adequate standardization.

While we have given the norms for first trial times, Young (1916) has also published norms for the shortest of three trials; and, for a limited age group, Simmons (1933) has norms based on the average of three trials. One or more of these three are published for the other form boards. There is disagreement as to what constitutes the best index of form-board ability. Young and Young (1923) offer the following conclusions, although they do not submit adequate data in support of them: (1) Each of the three trials has a definite psychological significance when considered in its numerical order; (2) the average of three trials is a meaningless composite of three totally different indices; and (3) the first trial time is most significant because it is an index of the child's ability without previous experience with the form board. Simmons (1933), in a study of five-, six-, seven-, and eight-year-olds, presents evidence that the average of the three trials may be a more satisfactory measure than Young was inclined to believe.

Interpretation.—Just what abilities are measured in form-board performances is not at all clear. Various writers have claimed their usefulness in measuring form perception and discrimination, manipulative ability, motor coordination, etc., but there have been no attempts to establish adequately their validity in any of these fields. They would appear to demand an ability to deal with a concrete problem requiring some insight and a high degree of manipulative skill. Form-board performance has no great relationship to Binet performance. As we have said above, form-board performances are best interpreted only in relation to performance on the Binet and other tests. Also their greatest clinical value probably lies, not in the quantitative score, but in the opportunity they afford for observing certain qualitative aspects of performance.

Picture Completion Tests.—In this class of performance tests we are placing all those that have in common the task of completing a

TABLE VII

| Name | Devised by |
|---------------|-------------------------------|
| Form Boards | |
| Adaptation | Goddard, 1915 |
| Arrow | Dunham, 1916 |
| Casualist | Knox, 1914 |
| Cylinder | Witmer |
| Five figure | Paterson |
| Form boards | Ferguson, 1920 |
| Form board | |
| 1-A | Dearborn, <i>et al</i> , 1916 |
| 1-C | " |
| 3 | " |
| 4 | " |
| Goddard | Seguin |
| Hollow square | Dearborn, <i>et al</i> , 1923 |
| Peg boards | Wallin, 1918 |
| Three disc | Witmer |
| Three figure | " |
| Two figure | Pintner-Paterson, 1917 |
| Witmer | Seguin |
| Worcester | Shakow-Kent, 1925 |

Picture Completion

| | |
|-----------------------|---------------------------|
| Form and Assembling | Porteus and Babcock, 1926 |
| Mare and Foal | Healy-Fernald, 1911 |
| Picture Completion I | Healy, 1914 |
| Picture Completion II | Healy, 1921 |
| Picture Puzzles | Stutsman, 1931 |
| Ship | Glueck |

Construction Tests

| | |
|---------------------|------------------------|
| Construction test A | Healy-Fernald, 1911 |
| " test B | " |
| Construction puzzle | Woolley, 1926 |
| Diagonal test | Kempf |
| Feature profile | Knox, 1914 |
| Manikin | Pintner-Paterson, 1917 |
| Triangle test | Gwyn, 1914 |

Miscellaneous

| | |
|----------------|------------------|
| Block design | Kohs, 1923 |
| Cube imitation | Maxfield, 1925 |
| Draw a man | Knox, 1914 |
| Slot maze A | Goodenough, 1926 |
| | Young, 1922 |

* B H L S refers to Bronner, Healy, Lowe and Shamberg (1927)

* S S refers to Schueffler and Schweisberger (1925)

* Norms not yet available in published form. B H L S give tentative norms

* These are very tentative. Authors will furnish further norms. Cf S S

I—PERFORMANCE TESTS

| Norms | | | Most Useful for Ages | Number in | |
|----------|----------------|-----------|----------------------|----------------------|-----------------|
| For Ages | Based on Cases | Reference | | B H L S ^a | SS ^b |

| | | | | | |
|------|------|-------------------------------|------|-----|-----|
| 5-13 | 827 | Pintner-Paterson, 1917 | 5-10 | 69 | 105 |
| 5-18 | 184 | Dunham, 1916 | | 70 | 106 |
| 5-14 | 918 | Pintner-Paterson, 1917 | 5-11 | 71 | 107 |
| 6-A | 2230 | Paschal, 1918 | | 75 | 108 |
| 5-14 | 933 | Pintner-Paterson, 1917 | | 78 | 110 |
| | | | 4-A | 83 | 109 |
| 5-10 | 433 | Dearborn, <i>et al</i> , 1923 | | 79 | 111 |
| 5-10 | 433 | " | | 80 | 112 |
| 6-13 | 362 | " | | 81 | 114 |
| 7-8 | 106 | " | | 82 | 115 |
| 5-14 | 1345 | Wallin, 1921 | 5-? | 84 | 119 |
| 2-10 | 500 | Lincoln, 1927 | 2-8 | 109 | 117 |
| 1-5 | 300 | Goodenough, 1927 | | | 118 |
| | 614 | Hallowell, 1928 | | | |
| 1-2 | 199 | " | | | 121 |
| 1-4 | 594 | " | 1-3 | | 122 |
| 5-14 | 911 | Pintner-Paterson, 1917 | | 90 | 123 |
| 4-A | 1647 | Young, 1916 | 4-8 | 85 | 120 |
| 5-A | 3484 | Young and Young, 1923 | | 115 | 116 |
| d | 100 | Kent, Shakow, 1928 | | | |

| | | | | | |
|------|------|------------------------------|------|----|----|
| 5-19 | | Porteus, <i>et al</i> , 1930 | 7-14 | | 77 |
| 5-13 | 621 | Pintner-Paterson, 1917 | 5-11 | 87 | 85 |
| 5-16 | 1538 | " | 5-14 | 20 | 86 |
| 7-A | 1542 | Healy, 1921 | | 21 | 87 |
| 3-5 | 631 | Stutsman, 1931 | | | |
| 5-14 | 648 | Pintner-Paterson, 1917 | 5-11 | 88 | 91 |

| | | | | | |
|-------|------|---------------------------|------|----|-----|
| 9-17 | 1596 | Lowe, Shmberg, Wood, 1924 | | 72 | 94 |
| 9-17 | 1596 | " | | 73 | 95 |
| 16-18 | 2644 | Woolley, 1926 | | 74 | 96 |
| 5-13 | 619 | Pintner-Paterson, 1917 | | 76 | 98 |
| 6-16 | 713 | " | 6-11 | 77 | 99 |
| 4-10 | 545 | " | 4-8 | 86 | 103 |
| 5-13 | 620 | " | 5-8 | 89 | 104 |

| | | | | | |
|------|------|------------------------|--|----|-----|
| 5-20 | 400 | Kohs, 1923 | | 96 | 136 |
| 6-14 | 1198 | Hutt, 1925 | | 59 | 137 |
| 5-A | 900 | Pintner-Paterson, 1917 | | 35 | 18 |
| 5-10 | 3593 | Goodenough, 1926 | | | 79 |
| 4-11 | 3441 | B H L S, 1927 | | 94 | 131 |
| 4-8 | 1304 | Young, 1922 | | | |

for years 14-16.

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picture in some manner; this may be filling in missing sections, or putting a picture together, etc. While much the same sort of performance is required as on the form boards, there is in addition the meaningfulness of the picture, and therefore a somewhat higher requirement in the way of ideation or insight. The directions are usually to put the picture together or to fill in the missing parts from additional pieces supplied. Scores may be in terms of time, as in the Mare and Foal, or in terms of correctness of response, as in the Healy Picture Completion tests. As these tests are much like games they serve a useful purpose in arousing a child's interest, and therefore offer a convenient means of establishing rapport. As in the form boards, qualitative observation of the child's performance is probably of greater clinical importance than the quantitative scores.

Construction Tests—These tests require the subject to build or put together blocks or other pieces to make some complex object. The scores are usually based on the time or correctness of response, and the interpretation of performance is similar to that for form boards. In addition to the tests we have listed as construction tests, there are a number that require the subject actually to build or put together small toys or tools. These tests have been used as mechanical aptitude tests; they are mentioned below.

Miscellaneous—In the last group of tests in Table VIII are placed several that do not conveniently fall into any of the above classes. Their interpretation and clinical values are similar to all of the groups we have already mentioned.

It is impossible in a limited space to describe all of these tests, but in Table VIII we have given certain information concerning them that will enable the reader to find further descriptions. In this table the tests are grouped into the four classes we have discussed. In the second column is given the name of the originator of the tests, with a reference to the original description where that is available. The next three columns indicate the age range for which norms are available, the number of cases upon which these norms are based, and the reference where the norms may be found. Other things being equal, the larger the number of cases, the better will be the norms. For some tests norms are available for ages beyond the range where they are most discriminative; therefore we show for such tests the age range within which they are most useful.

In the last two columns are given the number of the test in the

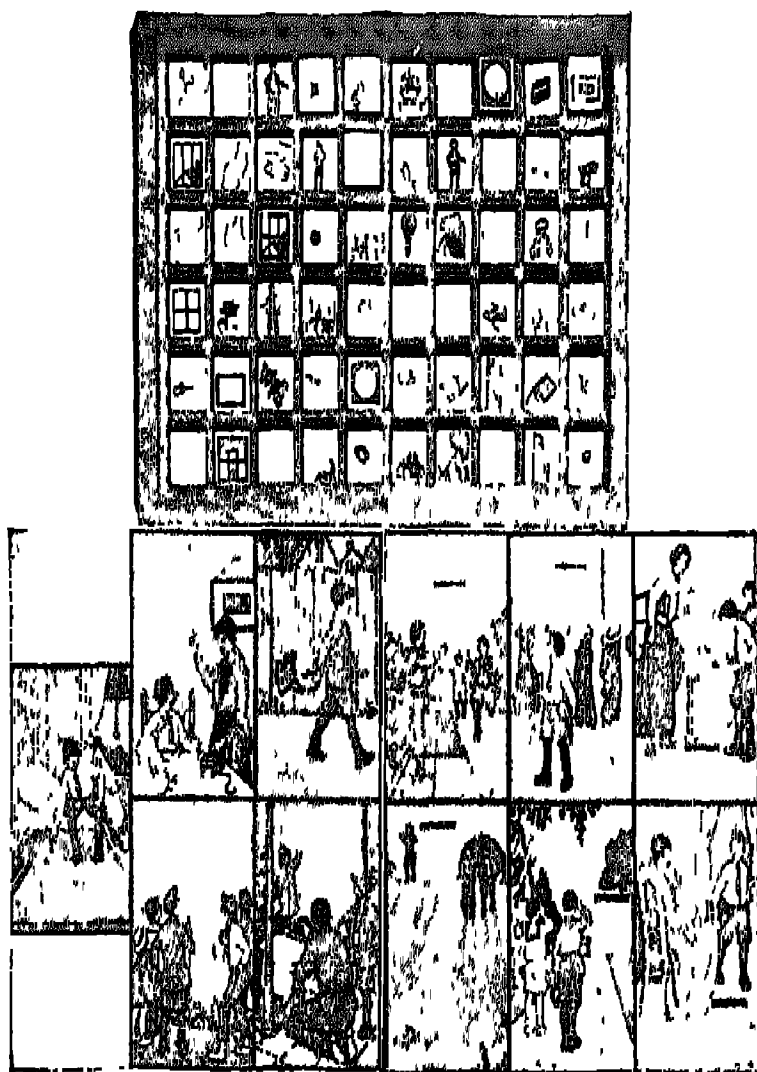


Figure 5 —Healy Picture Completion Test II (Courtesy C. H. Stoeckel, C. O.)

catalogues of Bronner, Healy, Lowe, and Shimberg (1927), and Schieffelin and Schwesinger (1930), respectively. In their excellent manual of individual tests Bronner, Healy, Lowe and Shimberg have given illustrations, descriptions, directions, scoring methods, condensed norms, and a discussion of the meaning of performance of 126 different tests, including about 50 performance tests. No one interested in clinical psychology or the individual examination of children should be without this manual. Schieffelin and Schwesinger's catalogue of non-language tests includes data on securing the test (with price), materials, directions, time required, scoring method, standardization, reliability, validity, discussion of value, and illustration in some cases. It describes a total of 186 different tests. Both works give very complete bibliographies.

Performance Scales.—The change in performance with increasing age on any of the manipulative tests we have been considering involves either greater speed or more accuracy. There is no increasing variety or complexity in the tests as are found in the Binet or the Porteus Maze. This has led a number of psychologists to combine a number of these single tests into scales, the scores on which are perhaps somewhat more meaningful. Since these combinations afford a wide age-range scale that is not greatly dependent upon language ability, they are of distinct clinical usefulness. Three of the best known and most adequate of the performance scales are the Pintner-Paterson, the Arthur, and the Cornell-Coxe, which we shall briefly describe.

The Pintner-Paterson Scale—This scale, devised by R. Pintner and D. G. Paterson (1917), is offered in a long and short form. The long form shown in Figure 6, includes the following tests.

- | | |
|------------------------------------|--|
| 1. Mare and foal A | 9. Manikin A |
| 2. Seguin form board A | 10. Feature profile A |
| 3. Five-figure board A | 11. Ship test A |
| 4. Two-figure board A | 12. Picture completion test I A |
| 5. Casuist form board A | 13. Substitution test |
| 6. Triangle test | 14. Adaptation board |
| 7. Diagonal test | 15. Cube imitation A |
| 8. Construction test A | |

The short form includes numbers one, two, three, four, five, nine, ten, eleven, twelve, and fifteen in the above list. Points are allowed for performance on each of these, and the points are combined into

a composite score from which an M.A. or percentile rating may be secured. The scale is most useful for ages four to fifteen years.

The Arthur Scale—This point performance scale was devised by Grace Arthur (1925, 1928, 1930-1933) In its final form it includes the following tests

1. Cube imitation
2. Seguin form board
3. Two-figure form board
4. Casuist form board
5. Manikin and feature profile
6. Mare and foal
7. Healy picture completion I
8. Porteus Maze
9. Koh's block design

Performance on each of these tests is given point credit, and the sum of these points may be converted into an M.A. This scale is intended for use between the ages of five and fifteen years Mahan (1934) has revised the scoring of this scale so that the sum of his weightings of the performances gives performance ages "which most closely approximate Binet mental age"

Cornell-Coxe Performance Ability Scale—This scale, devised by Ethel L. Cornell and Warren W. Coxe (1934), includes the following tests:

1. Manikin and feature profile
2. Block design
3. Picture arrangement
4. Digit-symbol
5. Memory for designs
6. Cube construction
7. Healy picture completion test II (number seven may be used as a substitute for number three)

It will be noticed that this scale includes a number of tests not used in either of the others. The present writer feels that this scale is perhaps somewhat more adequate in many respects than either of the other two. The scale is standardized for ages six to fifteen and one-half. A weighted system of point scores is used and these may be equated to mental ages.

Interpretation—Probably the first thing that one wants to know

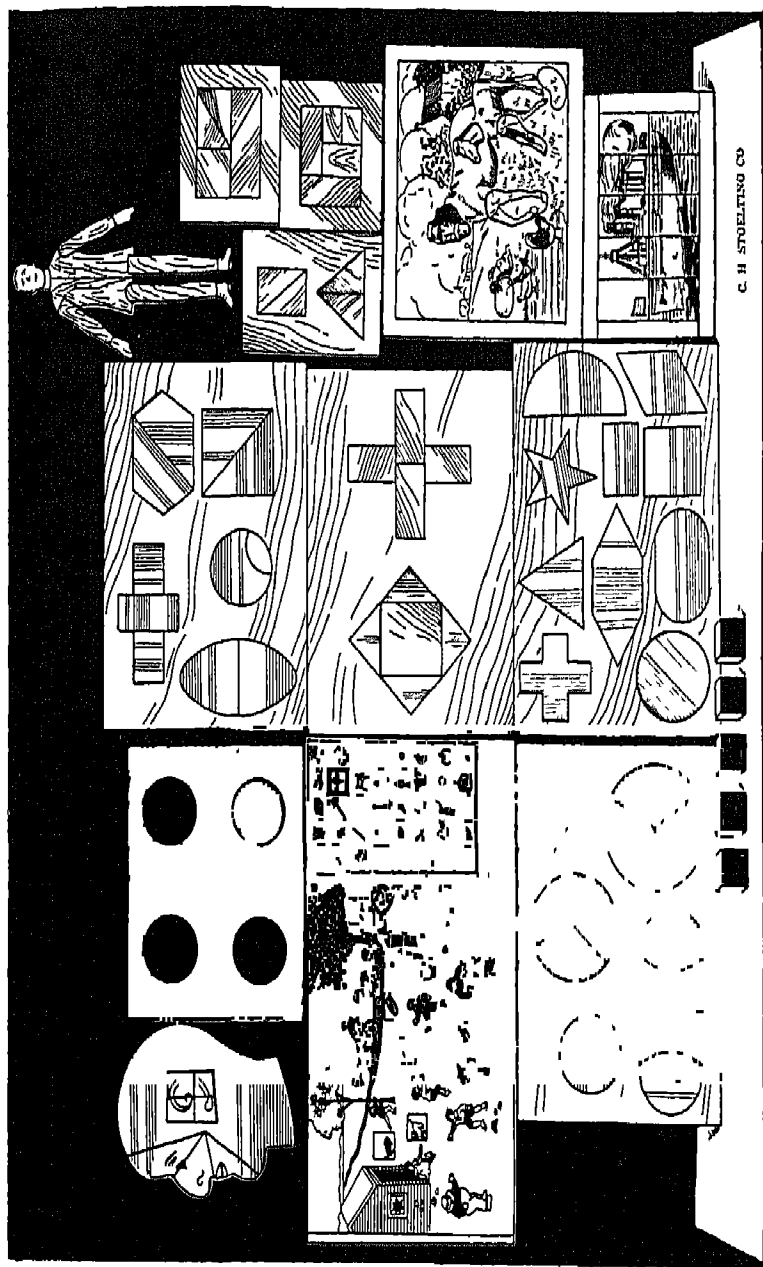


Figure 6—Pinner-Paterson Performance Scale Long Form (Courtesy, C. H. Stoelting Co.)

concerning the meaning of scores on these tests is their relation to Binet performance. Johnson (1925) reports a correlation of .82 between these two measures. It must be noted that in both of these groups the children ranged in age from three to ten or twelve years, and the correlations reported are not corrected for this C.A. factor. When this is done, the correlation drops to around .40. Cornell and Coxe report a correlation of .79 with the Binet and .74 with the National Intelligence Tests. However, as all of these have a positive relation to chronological age—in the case of the performance scale the correlation is .78—correction by partialing out C.A. would materially reduce the correlations. These correlations suggest that performance scales are not measuring the same sort of ability as is the Binet; therefore, they should be excellent supplements to the Binet in clinical practice.

In those circumstances where tests strongly emphasizing language are not usable—e.g., deaf, mute, illiterate, or foreign-language-speaking children—performance scales give an estimate of abilities that may be significant. There appear to be no studies showing the relation between these performance scales and academic achievement or occupational success. It would seem, however, that they should afford some indication of abilities along concrete, manipulative lines. To use a homely and perhaps not quite accurate comparison, performance scales are tests of “doing,” while scales of the Binet type are tests of “thinking.”

Interpretation of Several Test Results.—Scores from several different tests when expressed in a similar way, i.e., as mental ages, quotients, percentiles or standard scores, are occasionally averaged. This is not a valid procedure because the different scores do not have a sufficiently similar meaning. Furthermore, by averaging, the differences in performance are ironed out and many of the possibilities of interpretation are lost.

We may tentatively illustrate possible interpretation of several test scores by fictitious examples. It is to be remembered that in these illustrations we know nothing except the test scores—in ordinary practice we would know a great deal more about the child. Further, in usual clinical practice no very definite conclusion would be based on these test scores alone. However, we can here show the sort of use that scores may have.

Example 1 A boy ten years of age has a performance age of eight-five on the Binet, eight-six on the Porteus Maze, and 32 seconds on his first Witmer form-board trial which is median for eight years, five to eleven months. There is little question here. The performance in all of these tests is about 85 per cent of that expected from a child of ten years. His low score on the maze is due not to impulsiveness but probably to the lack of the abstract sort of ability measured by the Binet.

Example 2 A boy of ten years has a performance age of seven-zero on the Binet; eight-seven on the maze; and about nine-six on the form board. This variability is very suggestive. The prediction by the Binet would indicate that his academic achievement would be limited; he probably would not achieve much beyond fifth-grade work in school. However, his maze and form-board performances are considerably better than that on the Binet. Both of these tests involve the ability to deal successfully with immediate concrete problems. Taken together, the three scores suggest that he would have greater success with a mechanical type of occupation. As his Binet is so low, and as even the manual performances are below average, we could not recommend engineering; but possibly auto mechanic, machinist, or some similar occupation would be suitable.

Example 3 For convenience we will again take a ten-year-old child. This boy has a Binet performance of ten-six; a maze performance of seven-zero; and a form-board performance of ten-zero. With the Binet and form board both average or better, and only the maze low, it must be something other than inability to deal with abstract or concrete problems that has brought this score down. As we have seen, a low score on the maze may indicate an impulsiveness, or lack of sufficient stability to bring the problem to successful solution. The conclusion here might be that this boy should be able to do academic work at least through high school, but that he may have difficulty in school, and later in a vocation, because of the possibility of poor social adjustment resulting from his lack of stability.

These three examples, while not in any measure exhausting the possibilities, do suggest that a group of test results taken alone may throw light on various aspects of a problem. However, we must emphasize again, that in practice no very definite conclusions would be drawn on test results alone, no matter how many there were.

PRE-SCHOOL TESTS

The problem of testing abilities of pre-school children, i.e., below six years of age, is difficult but extremely important. Difficulties are found because of the limitations set on the type of material that may be used. For example, language tests are almost entirely unsuitable. Also young children are apt to be more diffident and to refuse to cooperate unless the materials are intrinsically interesting. On the other hand, some estimate of the abilities of pre-school children is of great importance for the early recognition of defects or superiorities, so that a satisfactory guidance program may be begun early.

If we consider again the tests already discussed, it will be seen that few of them are intended for young children. The Stanford-Binet does have test items for ages three, four, and five, while the Kuhlmann revision includes tests as low as three months. The Porteus Maze has forms for three, four, and five years, and some of the performance tests have norms as low as four years. In none of these, however, do the results at these low ages appear to be very satisfactory.

Stutsman (1931) has suggested certain criteria for selection of tests for pre-school children. The materials in such tests should be of primary interest to the child; they should measure fundamental abilities, and should cover a wide range of activities. Furthermore, they should be easy to give; they should use simple materials, and should discriminate statistically between age levels. This last is of particular importance because accelerated growth at these younger ages requires finer discrimination.

There have been several scales devised for the measurement of children less than six years old. Of these we shall describe only two

The Developmental Schedules.—These schedules, devised by Gesell (1925, 1928), are not tests in the ordinary sense, but they are probably the most useful instrument for estimating the abilities of infants. The schedules include tasks for each month from one to ten; then for ages twelve, fifteen, eighteen, 21, 24, and 30 months, and for four, five, and six years. The tasks are divided into four groups, viz, motor, language, adaptive, and personal-social behavior. Apparatus standard for use in this test is shown in Figure 7. As this scale does not give a numerical score which may be used or interpreted as an M.A. or I.Q., it is impossible to interpret the results in the simple manner of most other tests. But it has the decided advantage of showing weak-

nesses and strengths in the child's behavior. Satisfactory use and interpretation of this scale require considerable experience in presenting it under supervision

Merrill-Palmer Tests—This scale, devised for use with pre-school children, was published by Stutsman (1931) who worked at the Merrill-Palmer School in Detroit. There are 93 tests arranged in order of difficulty. Some of these tests make use of identical material but are placed at different levels on the basis of stricter requirements for successful performance. The scale is intended for children from one and one-half to six years of age. As is necessary in tests for pre-school children, many of the items are manipulative in character, although there are a number of very simple language tests. Credit is given in terms of points for each item correctly passed. Furthermore, the scoring method is so arranged that credits may be allowed for part of the items which are not given or which the child refuses to try. This unique feature is of decided value because young children very frequently exhibit a negative attitude and refuse even to attempt some of the tasks.

The norms, while based on only 631 children, are particularly good because these children were selected from a wide range of socioeconomic classes. The allocation of items to a particular position was extremely carefully done and is perhaps somewhat more statistically reliable than similar allocation in the Stanford-Binet. The raw score is the sum of points earned. Stutsman's manual includes tables for converting these point scores into M.A., S.D. (standard deviation) scores, and I.Q. equivalents.

GROUP TESTS

Earlier we called attention to the fact that tests have been published which enable an examiner to test many children at a single sitting. These group tests are not usually of particular importance in clinical work. However, as there is a wide variety of such tests from which to select, as they are available for higher age groups than any of the tests we have considered, and as they may also be given to a single individual, we are including in Table IX some pertinent data concerning a number of them.

This table lists the tests alphabetically by a short title. For each test are given the grade range (C = college, A = adult), whether or

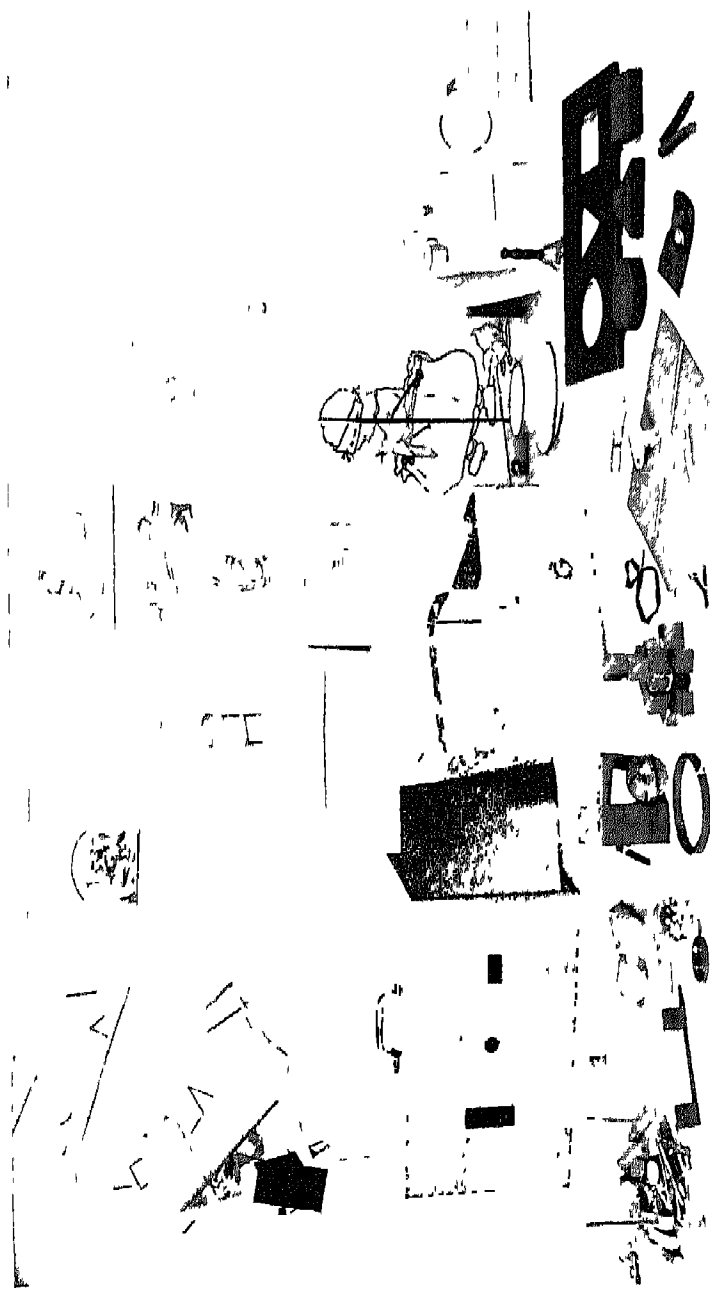


Figure 7 —Material for the Gesell Developmental Schedule (Courtesy C. H. Stoolung Co.)

TABLE IX—GROUP TESTS

| Name | Grade ^a | Ver- bal ^b | Time ^c | Publisher | Author | Date |
|---|--------------------|--------------------------|-------------------|--------------------------------|------------------------------------|--------------|
| Army Alpha . . | 5-C, A | Y | 45 | Stoelting | Yerkes (1921) | 1918 |
| Army Beta | 5-C, A | N | 30 | " | " | 1918 |
| CAVD Scale | all | Y | nl | Teachers College Lippincott | Thorndike (1927) W F Dearborn | 1926 1920 |
| Dearborn, Series I. | 1-3 | N | | " | " | 1920 |
| Dearborn, Series II | 4-9 | Y | | " | " | 1920 |
| Detroit First Grade | K-1 | N | nl | World Book | A M Engel | 1921 |
| Detroit Advanced First Grade . . | 1-2 | N | 30 | " " | H J Baker | 1928 |
| Detroit Primary | 2-4 | N | 30 | Public School | " | 1924 |
| Detroit Alpha | 5-9 | Y | 40 | " " | " | 1924 |
| Detroit Advanced | 9-C | Y | | " " | " | 1925 |
| Haggerty Delta I | 1-3 | N | 30 | World Book | M E Haggerty | 1920 |
| Haggerty Delta II | 3-9 | Y | 30 | " " | " | 1920 |
| Henmon-Nelson | 7-12 | Y | 30 | Houghton Mif- flin | V A C Henmon and M J Nelson | 1932 |
| Illinois General | 3-8 | Y | 30 | Public School | G M & H D Whipple | 1926 |
| Kingsbury Primary | 1-4 | N | | " " | F A Kingsbury | 1920 |
| Kuhlmann-Anderson | all | Y | 60 | Test Bureau | F Kuhlmann and R G Anderson | 1927 |
| Miller Mental Ability | 7-C | Y | 40 | World Book | W S Miller | 1921 |
| Multi-mental Scale | 2-9 | Y | 30 | Teachers College | W A McCall | 1915 |
| Myers Mental Measure | all | B | 20 | Newson | C E & G C Myers | 1920 |
| Myers Pantomime | 1-6 | N | | " | G C Myers | 1922 |
| National Intelligence | 3-8 | Y | 30 | World Book | Nat Res Coun Comm. | 1920 |
| Otis Group Primary | K-4 | N | 30 | " " | A S Otis | 1919 |
| Otis Group Advanced | 5-12 | Y | 60 | " " | " | 1919 |
| Otis Self-administering Intermediate | 4-9 | Y | 30 | " " | " | 1922 |
| Higher | 9-A | Y | 30 | " " | " | 1922 |
| Pintner Non-language | 3-8 | N | | College Book | R Pintner (1919) | 1919 |
| Pintner Primary Non- language | K-2 | N | | Teachers College | R Pintner | 1927 |
| Pintner Rapid Survey | 2-8 | Y | 15 | " " | " | 1927 |
| Pintner-Cunningham | K-2 | N | 40 | World Book | R Pintner and B V Cunningham | 1923 |
| Rhode Island (age 3-6) | | N | nl | Public School | G E Bird (1923) | 1923 |
| Terman Group | 7-12 | Y | 30 | World Book | L M Terman | 1920 |
| Trabue Mentimeter | all | Y | | See reference | Trabue and Stock- bridge (1920) | |

^a K = Kindergarten, C = college, A = adult^b Y = yes, N = no, B = both. Several of the verbal tests include some non-verbal material^c These are approximate times required. Tests marked nl have no time limit

not it requires language, and the approximate time necessary. The name of the publisher from whom the test may be secured is next given, followed by the name of the author and the date. In a few cases a reference is given to the bibliography at the end of this book. For further information on group tests see the bibliographical note at the end of this chapter.

NON-INTELLIGENCE TESTS

The tests so far discussed have all been instruments for measuring general ability, or so-called intelligence. They are used to discover the child's ability in language or manipulative performances, from which certain predictions can be made with respect to his future accomplishments. Such predictions are, however, never perfect because success on the test and even more in life adjustments depends to a great extent on factors other than those sampled by the test. For our clinical purposes we want to know more things about the child. In an earlier chapter we discussed information desired in the child's history and referred to instruments for measuring certain aspects of the child and his environment. In the balance of this chapter we shall briefly call attention to several varieties of instruments, usually paper and pencil, used to quantify, at least roughly, some of these aspects.

EDUCATIONAL ACHIEVEMENT TESTS

The traditional method of determining a child's school achievement is to consider the marks given by teachers. For many years, and in most schools today, promotion from grade to grade is based on these values. Yet such marks are notoriously subjective and unreliable. Starch and Elliott (1912, 1913, 1913a) had a number of teachers mark single papers in various subjects. The results were surprising. For instance, a single geometry paper graded by 118 teachers was scored from 29 to 92 on a scale with a passing grade of 75. On a similar scale an English paper marked by 142 teachers was given grades from 50 to 97, while a history paper marked by 20 teachers received grades ranging from 43 to 90. Wilson and Hoke (1928) present data from Iowa State College on the distribution of marks of different professors. In 1071 grades given by one man, one-third were failures, and the rest were about equally divided among each five per cent interval above 75. Another professor reversed this by giving 40 per cent of his grades in the 95-100 per cent group, with approximately equal numbers in the other groups.

As the aims in teaching school subjects are usually established and universally recognized, and as the content necessary to achieve these aims has been definitely selected, it would seem unpardonable to depend upon a teacher's markings for criteria of achievement. In many

schools such subjective marks are supplanted or supplemented by more objective scores on standardized achievement tests. Thus, from the child's success on a standard reading or arithmetic test we have an objective measure of just how much he knows in these subjects. Another use of standardized educational tests, and one for which many newer tests are specifically designed, is the determination of the specific difficulties that a child has in a given subject. Tests so designed are usually called "diagnostic" tests.

Both of these uses are obviously of value in the clinical examination of children. However, the clinician's interest in the child's school work is usually in the "tool" subjects, viz., reading, arithmetic, spelling, and writing. Mastery of these subjects is of essential importance to all future academic achievement. Therefore, when the complaint is poor school work, yet the intelligence test performance is satisfactory, exploration of these tool subjects by means of the available testing instruments is indicated.

It is impossible to consider here the achievement tests in detail; we must refer the reader to special books on the subject which are mentioned in the bibliographical note at the end of this chapter. Usually these tests are group tests but they may, of course, be given to individuals. Presentation, marking, and scoring are usually similar to those for group intelligence tests. Most of the norms are in terms of age, i.e., the average performance for children of a given age is found to be so many points. Some tests also supply grade norms, but these are probably clinically less useful than the age norms. The scores are expressed as educational ages (E.A.); and when these are divided by the C.A. an educational quotient, E.Q., is secured. From our previous discussion it is evident that educational achievement depends more upon M.A. than upon C.A. Therefore a more useful measure is the accomplished ratio, which is described thus:

$$A.R. = \frac{E.A.}{M.A.} = \frac{E.Q.}{I.Q.}$$

General Achievement Tests.—Certain tests for educational achievement are devised to give a rating of accomplishment in all of the fundamental school subjects. These usually have separate sections for each subject. Thus, the Stanford Achievement Test, which is the one most frequently used in psychological clinics, has sections for reading, arithmetic, science, history and literature, language usage,

and spelling. The Otis Classification Test, which is also frequently used, combines in its two sections tests for mental ability—the intermediate examination of the Otis Self-Administering Test—and for achievement, including questions designed to measure reading, spelling, grammar, arithmetic reasoning and fundamental operations, geography, history and civics, physiology and hygiene, literature, vocabulary, music, art, and general information. All of the other general achievement tests similarly sample knowledge in several fields

A type of general achievement tests are the short scales designed for clinical use which aim to determine the child's approximate grade achievement. Such a short scale has been included by Tjaden (1929) in his *Analytic Interview Manual*. Porteus (1922) has also published a short *Education Attainment Scale*.

Special Subject Achievement Tests.—For all of the subjects taught in the elementary school, most of those taught in high school, and many college subjects, there are standardized achievement tests available for measuring accomplishment in them. Hildreth (1933), in her excellent bibliography of tests, lists more than 1500 educational achievement tests. It is obviously impossible to list all of them here, but in Table X we have listed and given some pertinent data for several of the outstanding achievement tests for general use and in the tool subjects.

APTITUDE TESTS

There are a number of tests, having some points in common with both achievement and intelligence tests, designed to measure aptitude or special abilities in specific fields. Essentially the *modus operandi* is to present to the subject questions or tasks which are more or less necessary in the particular field for which the test is intended. The Seashore Measures of Musical Talent present, by means of phonograph records, various tone combinations designed to measure (1) pitch discrimination, (2) intensity, (3) time, (4) consonance, (5) tonal memory, and (6) rhythm. The Stanford Scientific Aptitude Test presents a series of questions and problems to indicate the following abilities. (1) experimental bent, (2) clarity of definition, (3) suspended vs. snap judgment, (4) reasoning, (5) detection of inconsistencies, (6) detection of fallacies, (7) induction, deduction, and generalization, (8) caution and thoroughness, (9) evaluation in the selection and arrangement of experimental data, (10) accuracy of interpretation, and (11)

TABLE X.—EDUCATIONAL ACHIEVEMENT TESTS

| Name | Grade | Publisher | Author | Date |
|---------------------------|-------|------------------|---|------------|
| General | | | | |
| Illinois Examination I | 3-5 | Public School | W S Monroe and B R Buckingham | 1920 |
| Illinois Examination II | 6-8 | " " | " | 1920 |
| Metropolitan | 1-8 | World Book | (various) | 1931-1933 |
| Otis Classification | 4-9 | " " | A S Otis | 1923 |
| New Stanford Achievement | | " " | T L Kelley, G M Ruch and L M Terman | 1929 |
| Primary | 2-3 | | | |
| Advanced | 4-9 | | | |
| Arithmetic | | | | |
| Buswell—John Diagnostic | Elem | Public School | G T Buswell and L John | 1926 |
| Compass Diagnostic | Elem | Scott | G M Ruch, <i>et al</i> | 1925 |
| Compass Survey | Elem | " | H A Greene, <i>et al</i> | 1927 |
| Monroe Diagnostic | Elem | Public School | W S Monroe | 1917 |
| Monroe General Survey | 3-8 | " " | " | 1920 |
| Monroe Reasoning | 4-8 | " " | " | 1918 |
| Wisconsin Inventory | 2-8 | " " | W J Osburn | 1924 |
| Woody-McCall | 3-8 | Teachers College | C Woody and W A McCall | 1913 |
| Reading | | | | |
| Bolenius Diagnostic | 2-3 | Houghton Mifflin | E M Bolenius | 1923 |
| Burgess Silent | Elem | Russell Sage | M A Burgess | 1920 |
| Detroit | 2-9 | World Book | C M Parker and E A Waterbury | 1927 |
| Gates Diagnostic | Elem | Teachers College | A I Gates | n d |
| Gates Primary | 1-2 | " " | " | 1926 |
| Gates Silent | 3-8 | " " | " | 1926 |
| Haggerty Sigma 1 | 1-3 | World Book | M E Haggerty | 1919, 1921 |
| Haggerty Sigma 3 | 6-12 | " " | " | |
| Monroe Silent, I, II, III | 3-12 | Public School | W S Monroe | 1920 |
| Thorndike-McCall | 2-12 | Teachers College | E L Thorndike and W A McCall | 1920 |
| Woody Silent | 4-12 | " " | C Woody | 1922 |
| Spelling | | | | |
| Ayres Scale | Elem | Russell Sage | L P Ayres | 1915 |
| Buckingham-Ayres | Elem | Public School | B R Buckingham | 1918 |
| Iowa | 2-8 | " " | H A Greene | 1923 |
| Watson | J H | Teachers College | A E Watson (1935) | 1935 |
| Writing | | | | |
| Ayres Scale | Elem | Russell Sage | L P Ayres | 1917 |
| Freeman Chart | all | Houghton Mifflin | F N Freeman | 1914 |
| Gray Score Card | Elem | Univ Texas | C T Gray (1915) | 1915 |

accuracy of observation. Other tests of this type have similar sections for their special fields. Evidently performance depends upon achievement, although a certain degree of general ability or intelligence is also required

Clinical problems of education and vocational guidance of children and adolescents are often more satisfactorily handled through the use of tests of this type. In Table XI are listed several of the aptitude scales in art, music, mechanical ability, and the professions. Those for the last group are for college students, the tests in the other groups may be used with children as indicated. The number of aptitude tests for specific vocations is so great that it is impossible to list them all here, and unwise to attempt selection, therefore we must refer the reader to Hildreth (1933), and the bibliographical note at the end of this chapter for further information

PERSONALITY AND CONDUCT MEASUREMENTS

During the World War R. S. Woodworth devised for use in the U. S. Army a Personal Data Sheet for the purpose of indicating the presence of possible neurotic tendencies in soldiers. This was the beginning of what has been one of the most active sections of the field of psychological measurements. Since Woodworth's schedule was introduced there have been more than 300 scales published that Hildreth (1933) classes as character and personality tests. Unfortunately, this showing is not entirely commendable, for many, perhaps most, of these scales are of doubtful value.

This lack of value is due in part to inadequate investigation of the real meaning of the instruments. But a far greater part must be ascribed to the vagaries of the concepts with which the tests are to deal. Personality is thought of as the sum total of reaction possibilities possessed by an individual, while conduct refers to the person's actual behavior. Both of these are of significance only in relation to other people, i.e., their significance and criteria are necessarily social. As a result, there is no very clear distinction between personality and conduct measurements. Perhaps the only one is that conduct of a certain type is taken to indicate an underlying personality as introverted, dominant, and so on. It is relatively simple to present a child with a series of arithmetic problems and by his success in solving them to measure his achievement in this subject. It is almost equally simple to present a series of problems to measure that general ability

TABLE XI—APTITUDE TESTS

| Name | Grade | Publisher | Author | Date |
|------------------------------------|-----------|------------------------|------------------------------------|---------------|
| <i>Art</i> | | | | |
| Art Judgment. | 7-12 | Iowa | N C Meier and C. E. Seashore | 1929 |
| Art Test . . | Elem -A | Teachers College | M McAdory (1929) | 1929 |
| Visual Art. . . | 3-C | Southern Calif | A S Lewerenz | 1927 |
| <i>Mechanical</i> | | | | |
| Assembly Test for Girls | 13-16 yrs | Stoelting | H A. Toops (1923) | 1923 |
| Detroit Mechanical Aptitude | 7-12 | Public School | H J Baker and A C Crockett | 1929 |
| MacQuarrie | 10 + yrs | Stoelting | T W MacQuarrie (1927) | 1927 |
| Minnesota | | Marietta | D G Paterson, <i>et al</i> (1930) | 1930 |
| Stenquist Assembling | Elem -A | Stoelting | J L Stenquist (1923) | 1923 |
| Stenquist Mechanical Aptitude | 6-12 | World Book | " " | 1923 |
| <i>Music</i> | | | | |
| Measures of Musical Talent | 5-A | Stoelting ^a | C E. Seashore (1919) | 1919 |
| Music Test | 7-12 | Public School | H E Hutchinson and L C Piessey | 1924 |
| Music Information and Appreciation | 9-C | Iowa | J Kwalwasser | 1927 |
| Musical Accomplishment | 4-12 | Iowa | J Kwalwasser and G M Ruch | 1924, 1927 |
| <i>Professional</i> | | | | |
| Educational Administration | C | Stanford | M B Jensen (1928) | 1928 |
| Engineering | C | World Book | L L Thurstone | 1922 |
| Law | C | West | M L Ferson and G D Stoddard (1927) | 1925, 1927 |
| Medicine | C | Center | F A Moss (1930) | 1929 |
| Nursing | H S, C | " | F A Moss and T Hunt | 1931 |
| Science | C | Stanford | D L Zyve (1930) | 1929 |
| Teaching | C | World Book | W W Cox and J S Orleans | 1930 |
| <i>Vocational</i> | | | | |
| Attitude Quiz | 3-12 | See reference | H C Lehman and P A Witty (1929) | 1929 |
| Interest Blank | H S, C, A | Stanford | E K Strong, Jr | 1930 |

^aThis test is on phonograph records manufactured by the Columbia Phonograph Co

we call intelligence. But to measure traits which are so complex, and so interwoven not only within the individual but with his whole social milieu as well, is far from simple.

Three methods are in general used for measuring personality and conduct, and practically all such tests use one or another of them. These methods are (1) the questionnaire, (2) the rating scale, and (3) the objective test. The questionnaire method was extensively exploited by G. Stanley Hall in a variety of psychological investigations many years ago. Woodworth's Personal Data Sheet was an adaptation of the questionnaire method to his particular problem. In this case, and in most subsequent schedules, the subject is presented with a number of questions or statements which he is to mark "yes" or "no," "true" or "false," or some similar alternative. A few schedules require more elaborate answers than this. The questionnaire is usually designed to be answered by the subject who is being studied.

If instead of merely a "yes" or "no" answer to questions the subject is required to discriminate more finely by responding with one of five possible degrees instead of one out of two, we have a transition to the second method. Rating scales, as usually devised, require the person making the rating to ascribe a certain degree to a characteristic. Thus, on honesty they may rate on a scale with three, five, seven, or any other number of degrees extending from extremely honest to extremely dishonest. An extension of this idea in the direction of finer discrimination and possibly somewhat greater precision is found in the graphic rating scale where for the traits being rated a linear scale is provided which is marked at any point. The actual distance in millimeters from either extreme may then be measured. Ratings on instruments of this sort may be made by an individual for his own traits, or those same traits may be rated by other individuals who know him.

Both of these methods are liable to serious error unless carefully devised and used. For example, items on a questionnaire may be of such a nature that the individual simply does not know the answer, or to answer an item correctly might be incriminating. In either case the validity of the schedule is materially reduced. Experiments with rating scales have shown that such factors as lack of familiarity with the person being rated, lack of comprehension of the traits or degrees rated, and the "halo" effect (the rater's opinion of the person as a whole) all operate to reduce their statistical validity.

Presumably a more satisfactory way of measuring personality and conduct would be to subject the individual to standard situations in which characteristic traits might become evident. This constitutes the third method, i.e., objective tests. Obviously it is almost impossible to arrange satisfactory conditions for testing objectively even a majority of the traits which may be dealt with by questionnaires or rating scales. Probably the most successful attempt to use the objective test method was in the Character Education Inquiry under the direction of Hartshorne and May (1928, 1929, 1930) Inasmuch as this method has been attempted for relatively few specific characteristics and it does not appear adapted to clinical use, we shall not consider it further but refer the reader to the work mentioned.

A careful consideration of the descriptive catalogue of personality tests given by Symonds (1934) indicates that most of the work in this field has been done with subjects at or above the high school level. Therefore, most of the available instruments are of no value in dealing with children. However, we have selected for brief description a few tests which are intended for use with children and which are available in published form. Inclusion in this list does not constitute a recommendation nor does exclusion indicate condemnation. The list is merely representative.

Personality Rating Scale by Blanton and Blanton (1927), revised by Fenton (1928). This graphic rating scale, which is not available separately, is devised for studying fourteen personality traits of children.

Character-conduct Self-rating Scale for Students by E. J. Brown (1930) Published by Bureau Educational Measurements, Kansas State Teachers College. A five-point scale for use in self-analysis by pupils in elementary and junior high school, or by teachers. Includes ten sections: fidelity, obedience, insight, courtesy, cooperation, industry, fair play, good health, self-control, and service.

New York Rating Scale for School Habits by Ethel L. Cornell, Warren W. Coxe, and Jacob S. Orleans. Published by World Book Co., 1927. Ratings are made by teachers on children from third grade to high school on characteristic school habits and attitudes.

Character Scale by L. W. Hacker. Published by McKnight and McKnight, Normal, Ill., 1928. Ratings to be made by parent, teacher, Sunday school teacher, club leader, and self on forty items in fields of physical, intellectual, working, personal, social, and emotional characteristics.

Behavior Rating Schedules by M. E. Haggerty, W. C. Olson, and E. K. Wickman (see Haggerty, 1925, Olson, 1930). Published by World Book Co., 1930. Consists of a behavior problem record to show frequency of problem, and a rating scale for mental, physical, social, and emotional personality characteristics. To be used by teachers, but also useful for others who know the child. This is one of the best of this type of scale for clinical use, as shown by Olson (1931).

Adjustment Score Card by L. N. Yepsen (1928), revised by Eccles (1930). Published by the Training School, 1928. To be used for rating social adjustments of children regardless of age, grade, or sex. Ratings made by anyone who knows the child.

Personality Inventory by Robert G. Bernreuter. Published by Stanford University Press, 1931. This is a questionnaire of 125 items which may be differentially scored for neurotic tendency, self-sufficiency, introversion-extraversion, and dominance-submission. While this scale cannot be used for children below high school, it is included here because it is perhaps the most useful of the personality questionnaires.

Personal Data Sheet by R. S. Woodworth, revised by Vernon M. Cady (1923). Published by Stoelting, 1923. This questionnaire is to be used in measuring psychoneurotic maladjustment of boys, especially in relation to delinquency. A modification was used in Terman's (1925) study of gifted children.

Personal Data Sheet by R. S. Woodworth, revised by Ellen Mathews (1923). Published by Stoelting. This revision of the Personal Data Sheet measures psychoneurotic maladjustments of adolescent and pre-adolescent children.

Developmental Age Test by P. H. Furfey (1928, 1931). Published by Stoelting. Developmental age as tested by this instrument refers to non-intellectual maturity of general behavior, e.g., in play, phantasy, ambition, reading, movies, etc. Designed for boys from eight to eighteen years of age.

Character Sketches by J. B. Maller. Published by Teachers College, 1932. This questionnaire indicates certain personality traits such as introversion, feelings of inferiority, emotional instability, neurotic tendencies, etc. Designed for use with school children from the fifth grade through high school and in college.

Personal Attitudes Test for Boys by Lennig Sweet (1929). Published by Association Press. This questionnaire, which has a rating feature, indicates attitudes and ideals of boys toward home and school.

life. A somewhat complicated scoring scheme yields measures of self-criticism, criticism of the average boy, feeling of difference from the average boy, feelings of superiority and inferiority, deviation from accepted ideas of right, and social insight.

X-O Tests for Investigating the Emotions by Sidney L. Pressey (1919, 1920, 1921) Published by Stoelting This is one of the earliest scales for investigating personality traits and has an extensive bibliography. It indicates attitudes toward things that may have an emotional content for the subject. The three sections of Form B (most frequently used and suitable for children from the fourth grade up) require the subject to indicate all things he likes or is interested in, all things about which he is nervous or worries, and all things he thinks are wrong

Interest-Attitude Tests by S. L. Pressey, L. C. Pressey (1933). Published by the Department of Psychology, Ohio State University. The method used is similar to the X-O tests, and the items refer to things believed wrong, things worried about, things interested in, and people liked or admired. It measures emotional maturity of children in grades five to twelve.

Personality Rating Scale by L. R. Marston (1925) Published by Iowa Child Welfare Research Station, University of Iowa This scale is for determining introversion and extraversion in children two to six years of age by teacher or parent ratings.

Telling What I Do Tests by Harry J. Baker (1931). Published by Public School Publishing Co. There is a primary form for grades four to six, and an advanced form for grades seven to nine. The scale indicates children's attitudes toward certain situations designed to measure their social, ethical and moral standards of behavior.

The Best Thing To Do Test by Frank E. Tomlin. Published by Stanford University Press (1931). This scale uses a multiple-choice type of question and is designed to indicate social and cultural standards. It is for use with elementary school children.

Suggestibility Test by Margaret Ous (1924) Published by Stoelting. This is called a directions test when presenting it in order to allay suspicion, but the directions and tasks are so arranged that wrong responses may be made due to suggestions. For grades three to six.

Test of Personality Adjustment by Carl R. Rogers (1931). Published by Association Press. This is one of the most valuable instruments of the type being discussed for use in clinics. A variety of methods

are used, including both questionnaire and ratings. There are separate forms for boys and girls. The test is scored in four ways, giving measures of feeling of personal inferiority, feeling of social inferiority, family maladjustment and daydreaming. It may be used with children from nine to thirteen years of age.

The Vineland Social Maturity Scale by E. A. Doll (1935). Published by the Training School. This scale consists of 117 socially significant performances arranged approximately in the order of their development with increasing age. A plus score is given for each performance which the individual does habitually, a minus for those which he does not do, and \pm for those which he does only occasionally. Allowance is made in the total score for those which he does not do because of limitations imposed by his environment, but not for limitations because of physical or mental disabilities.

A tentative scaling of the items is available, by which a Social Age may be secured. "The Scale affords: (a) A standard schedule of normal development which can be used repeatedly for the measurement of growth or change; (b) a measure of individual differences and, consequently, of extreme deviation which may be significant in such problems as mental deficiency, juvenile delinquency, child placement or adoption; (c) a qualitative index of variation in development in abnormal subjects such as the maladjusted, the unstable, the psychopathic, the epileptic; (d) a measure of deterioration in those conditions where social regression is a consequence of mental and physical disease; (e) a measure of improvement following special treatment, therapy, and training. It is also useful in distinguishing between mental retardation with social incompetence (feeble-mindedness) and mental retardation without social incompetence, which is often confused with feeble-mindedness." While this scale is a pioneer attempt to quantify actual social behavior, it promises to be of great clinical significance.

MEASURES OF THE ENVIRONMENT

As part of the history outlined in the last chapter, certain aspects of the physical environment were included. Several scales or schedules have been published for the purpose of grading this environment in a standardized manner. Brief descriptions of these instruments follow.

Scale for Rating Living-room Equipment by F. S. Chapin (1928). Published as Circular No. 3, Institute of Child Welfare, University

of Minnesota. This scale includes 53 items relating to living-room furnishings which are scored during a home visitation.

Score Card for Socio-Economic Status by Verner M. Sims (1928). Published by Public School Publishing Co. This schedule has twenty-five items concerning the general cultural, social and economic background of the home. The questions are answered by the child, and are suitable for children in the fifth grade or higher.

Whittier Scale for Grading Neighborhood Conditions by W. W. Clark and J. Harold Williams (1919). Published by the Whittier State School, Whittier, California. Neighborhoods are rated on (1) neatness, sanitation, and improvements, (2) recreational facilities, (3) institutions and establishments, (4) social status of residents, and (5) average quality of home. Ratings are made on a five-point scale by an observer visiting the neighborhood.

Whittier Scale for Grading Home Conditions by J. Harold Williams (1918). Published by the Whittier State School, Whittier, California. There are separate scales for rating each of the following on a five-point basis. (1) necessities, (2) neatness, (3) size, (4) parental conditions, (5) parental supervision. Ratings are made by an observer after visiting the home.

Apperception Test by Edith M. Burdick (1929). Published by Association Press. This schedule is designed to measure the social level of the home by children's responses to questions that reveal the sort of home they are familiar with. Planned for use in grades five to eight. Hartshorne and May (1928) report on the use of this schedule.

Social Adequacy Measuring Scale by Mary J. McCormick (1930). Published by Stoelting. Thirty-eight questions concerning the adequacy of the home are to be answered, usually by yes or no, by an observer at a home visit. The criterion of adequacy is whether or not the family needs special aid from social agencies.

BIBLIOGRAPHICAL NOTE

The field of psychological measurements is so extensive that our inadequate treatment will immediately be evident to those acquainted with it. However, as we are concerned only with tests as tools in the clinical application of psychology, the omissions are perhaps justified. For the benefit of those who desire further materials concerning tests we have added this bibliographical note.

The most complete list of tests has been compiled by Hildreth (1933). She has included tests for measuring intelligence, separate abilities like imagination or memory, educational achievement, motor abilities, character and personality, vocational aptitude, and the environment. Approximately 4000 tests are listed—most well known and standardized, many little known and relatively unstandardized. A five-page bibliography of bibliographies on tests is included. This list has been brought up to date by Buros (1935), who plans to compile a yearly list of new tests.

Whipple (1914, 1915) has published a manual of tests and measures of simple sensory, motor, perceptual, etc., abilities, which in spite of its age is still a standard. Modern manuals of performance tests are those by Bronner, Healy, Lowe, and Shimberg (1927), and by Schiefelin and Schwesinger (1930), which have already been mentioned.

Pintner (1931) discusses the history and theory of individual and group intelligence tests and gives almost encyclopedic information on experimental findings based on tests. Garrett and Schneck (1933) describe tests for the simpler functions, verbal and non-verbal tests of intelligence, tests of personality and temperament, and tests for aptitude in special fields. Their interest is largely in theoretical and statistical phases of the tests, although they give a brief discussion of test uses.

Educational achievement tests are discussed by a number of writers, among which those by Smith and Wright (1928), and by Wilson and Hoke (1928), are excellent. The former describes more tests and deals more exhaustively with those described. The latter is especially good for methods of using the tests in classroom instruction. The measurement of vocational aptitudes in general is well treated by Hull (1928), while trade tests are discussed by Toops (1921) and by Chapman (1921).

The theory and methods of personality and conduct measurements are exhaustively considered by Symonds (1931), and in a later volume he has a very complete descriptive catalogue of such tests. In this volume Symonds (1934) describes over 200 instruments, giving for each the author, date, publisher, price, purpose, brief description, norms when available, and references.

Wells (1927) has published the best and most complete discussion of the use of tests in clinical practice. He is concerned less with the statistical aspects of testing than with methods and values in actual clinical usage. The Bronner, Healy, Lowe, and Shimberg volume also indicates the clinical usefulness of the tests included.

LIST OF PUBLISHERS REFERRED TO

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| Association Press | Association Press, 347 Madison Ave., New York City. |
| Center | Center for Psychological Service, Washington, D C. |
| College Book | College Book Co, Columbus, Ohio. |
| Houghton Mifflin | Houghton Mifflin Company, 2 Park St., Boston, Mass |
| Iowa | Bureau of Educational Research, University of Iowa, Iowa City, Ia |
| Lippincott | J. B. Lippincott Co., Philadelphia, Pa. |
| Marietta | Marietta Apparatus Co., Marietta, Ohio |
| Newson | Newson & Co, 73 Fifth Ave, New York City |
| Public School | Public School Publishing Co., Bloomington, Ill. |
| Russell Sage | Russell Sage Foundation, New York City. |
| Scott | Scott, Foresman Co, Chicago, Ill |
| Southern Calif | Southern California Book Depository, Los Angeles, Calif. |
| Stanford | Stanford University Press, Stanford University, Calif |
| Stoelting | C. H. Stoelting Co., Chicago, Ill |
| Teachers College | Teachers College, Columbia University, New York City. |
| Test Bureau | Educational Test Bureau, Minneapolis, Minn. |
| Training School | The Training School, Vineland, N. J. |
| West | West Publishing Co, Minneapolis, Minn |
| World Book | World Book Co, Yonkers, N. Y |

PART II

PROBLEMS CORRELATED WITH ABILITIES

Chapter IV

MENTAL DEFICIENCY OR FEEBLE-MINDEDNESS

DEFINITIONS

LIKE the poor, the feeble-minded have been, and always are, with us. Yet it is only in relatively recent times that definite study has been made of this condition, and definitions formulated. Even today there is no universally accepted concept of what the condition is. One reason for this is that the feeble-minded may be regarded from at least four points of view—medical, sociological, pedagogical and psychological—and unfortunately the criteria based upon each of these do not always coincide.

Medical Definition—Without digression into the history of the care and treatment of feeble-mindedness by the medical profession, we may quote Tredgold's definitions. The earlier one (1908) concludes with the statement that feeble-mindedness is a "state of mental defect . . . due to incomplete cerebral development."

This was later modified (1914) to a "state of restricted potentiality for, or arrest of, cerebral development." A definition of this same general purport was given by Berry and Gordon as recently as 1931. They say: "Mental deficiency is a partial or complete premature arrest of brain growth and development, especially of the minute cells of the brain, which occurs either before birth or at some time between birth and the age of puberty." The chief difficulty with this sort of definition is that while it may possibly be logical in theory, it has not been very well supported by experimental findings except in the case of certain pathological groups.

Sociological Definition.—The most widely quoted definition from the point of view of social adjustment is that propounded by the British Royal Commission on the Feeble-minded (1908). This has served widely as a prototype of socio-legal definitions. The Commission says that the feeble-minded are "persons who may be capable of earning a living under favorable circumstances, but are incapable

from mental defect existing from birth or from an early age (a) of competing on equal terms with their normal fellows or (b) of managing themselves and their affairs with ordinary prudence"

Tregold (1914) says "The condition is a psychological one, although the criterion is a social one, and we may accordingly define amentia as a state of restricted potentiality for, or arrest of, cerebral development, in consequence of which the person so affected is incapable at maturity of so adapting himself to his environment or to the requirements of the community as to maintain existence independently of external support."¹

Binet and Simon (1916), in proposing a social criterion, recognize that such a definition cannot have definiteness, but is variable with circumstances. They say "The most general formula that one can adopt is this an individual is normal when he is able to perform work sufficiently remunerative to supply his personal needs, and finally, when his intelligence does not exclude him from the social rank of his parents."

Porteus (1921), in criticizing these and other definitions of intelligence, points out that any definition should make evident

1. That feeble-mindedness results in a condition of permanent social inadequacy

2. That this social inadequacy is essentially dependent upon a psychological condition (This, in turn, may be dependent upon a physical condition, but as the latter is not always demonstrable, it is omitted from the definition.)

3. That there are excluded other socially inadequate groups, not feeble-minded, such as the insane, the deaf and dumb, the blind, the physically defective, the criminal and the immature. It should include all forms of feeble-mindedness, whether congenital or acquired.

The definition which he proposes is "A feeble-minded person is one who by reason of mental defects, other than sensory, cannot attain to self-management and self-support to the degree of social sufficiency." It will be noted that this definition does not meet all of the criteria that Porteus himself sets forth.

The British Mental Deficiency Committee defined mental deficiency (Wood, 1929) thus "Our concept of mental deficiency, therefore, is that of a condition of incomplete development of mind of such a degree or kind as to render the individual incapable of adjusting

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himself to his social environment in a reasonably efficient and harmonious manner and to necessitate external care, supervision or control." Further the Committee says, "The only really satisfactory criterion of mental deficiency is the social one." Doll (1917, 1917a, 1935) has long advocated a threefold criterion of feeble-mindedness that emphasizes social inadequacy resulting from intelligence which is low because it has been arrested in the course of its development. In the last article cited he points out that the importance of a social criterion is recognized by every competent authority.

The social criteria are variable, but this is at once their weakness and their strength. A weakness because it suggests arbitrariness, and makes the feeble-minded condition depend on the contingencies of the moment. From a scientific or technical point of view this is, perhaps, undesirable. Pintner (1933) says "All these sociological definitions are merely practical guides as to who should be committed to special care or supervision." It is, however, just this sort of definition that is most useful in clinical work. It seems hardly justifiable to call a man feeble-minded because of low test performance or poor school attainment when he is successfully adjusting to the economic and social environment. Diagnosis which carefully considers this social criterion recognizes that adequate social adjustment at the present time is no guarantee that such adjustment will continue. An instance of this is shown in the history of the Dorbet family (Louttit and Frith, 1934). When Mr. Dorbet was first seen he was making, for him, an adequate economic adjustment. This was on a level but one step removed from begging, and with the onset of the economic debacle of 1929 and the following years, this means of support was inadequate. During these years, this man with an eight-year performance ability found himself unable to cope with the responsibilities of maintenance for himself and his wife, and became a public charge.

Pedagogical Definition.—Successful adjustment in our society is most usually dependent upon a modicum of school training—at least an elementary ability with the three "R's." For this reason the low educational attainments of the feeble-minded make their social adjustment even more difficult. It was the recognition of the school retardation of defectives, with its attendant evils, that led the school commissioners of Paris to appoint Binet and Simon to study methods of detecting such children in the school system. A definition of

feeble-mindedness based on a pedagogical criterion would appear to offer greater precision than either of the two already discussed. Such definitions have been proposed.

As early as 1838 Esquirol formulatèd a clear definition of idiocy (which was then the generic term for mental deficiency) that was pedagogical in character. He said, "Idiocy is not a disease but a condition in which the intellectual faculties are never manifested or have never been developed sufficiently to enable the idiot to acquire such an amount of knowledge as persons of his own age, and placed in similar circumstances with himself, are capable of receiving."

Binet and Simon (1914, 1916) say that idiots cannot talk, imbeciles cannot read or write, and morons cannot deal with abstract concepts. Similarly, Gesell (1913) says that the feeble-minded "cannot be taught to read, write, or cipher, with any marked advantage to themselves or society." While it is true that school retardation, even in a rather serious degree, may be due to factors other than mental defect, yet a retardation of greater than three years is at least most suggestive of feeble-mindedness. In addition to being excessively retarded, the feeble-minded child is usually found to be doing rather poor work in his grade, especially in abstract subjects such as arithmetic.

Psychological Definition—Definitions that may be classed as psychological are usually based upon performance on intelligence tests such as we have discussed. In other words, these definitions are phrased in terms of M.A. and IQ. This use of numbers has in many instances given a false sense of precision, making possible serious abuse of what otherwise is a very useful way of describing feeble-mindedness. In 1911, the American Association for the Study of the Feeble-minded adopted the following definition of feeble-mindedness:

1. The term "feeble-minded" is used generically to include all degrees of mental defect arising from arrested or imperfect mental development, as the result of which the person so affected is incapable of competing on equal terms with his normal fellows or managing himself or his affairs with ordinary prudence.

2. Idiots are those so deeply defective that mental development never exceeds that of a normal child of about two years.

3. Imbeciles are those whose development is higher than that of an idiot but does not exceed that of a normal child of about seven years.

4. Morons are those whose development is higher than that of an imbecile but does not exceed that of a normal child of about twelve

years. This is the first definition to be clearly formulated in terms of the psychological concept of mental ability

The upper limit for morons given in this definition was widely adopted and used in the earlier days of mental testing. Doll (1917) says that the mental capacity does not exceed "that of a twelve-year-old normal child" With the Stanford revision of the Binet, Terman set the upper limit of feeble-mindedness at an I.Q. of 70 Taken in relation to his claim of 16 years representing the upper limit of mental development, this would mean a mental age of 11.2 years As pointed out in Chapter III, 16 years is too high an upper limit; probably 14 years is more justifiable With an I.Q. of 70, this would mean that the upper limit of feeble-mindedness is 9.11 years To use even this value strictly in diagnosing feeble-mindedness would be precarious. Probably the best expression of modern opinion, together with reasons, is that given by Pintner (1933) "If we apply these limits [8.6 as adopted in the British Mental Deficiency Report of 1929, and 9.11 calculated from an I.Q. of 70 with an average adult C.A. of 14] to the Army results, we note that an upper limit of M.A. 8.6 would cut off about 3.7 per cent; an upper limit of M.A. 9.11 would include about 10 per cent. Similarly, when applying these limits to a random sampling of 17,502 school children, not including children in special classes, I find that 1.28 per cent fall below I.Q. 60, and 5.72 per cent below I.Q. 70. It is therefore probably wise to consider the upper limit of feeble-mindedness as lying somewhere in the neighborhood of I.Q. 60 and M.A. 8.6"²

The percentages quoted introduce another way of defining feeble-mindedness which is dependent upon psychological measures, i.e., the statistical. The percentage of feeble-minded found in different surveys has varied widely. The British Royal Commission (1908) reported a percentage of 0.4, while at the other extreme Anderson (1922) reports 6.1 per cent in a Minnesota county Probably the lowest one to two per cent of the population would include all persons who should be so called. Any percentage selected would not hold in all countries or even in different sections of the same country. Burt has suggested that different localities might set up their own standard. However, there does not seem to be any practical advantage gained by this sort of criterion.

² Reprinted from page 814 of *The Handbook of Child Psychology*, 2nd ed., C. Murchison, editor, by permission of the Clark University Press.

Summary—The very fact that such different criteria of feeble-mindedness have been proposed reflects the truth that this condition cannot, in itself, be considered a disease entity. It is also pertinent to note that the various definitions do not coincide, which makes clinical study of such people difficult. It is hardly profitable to add to the already long list of definitions, but we may consider the four types that have been presented from the point of view of clinical diagnosis.

The medical criterion may be eliminated at once. In so far as it deals with retarded cerebral development, it is sterile. There are no clinical methods available for determining such a condition. Other aspects of physical conditions, anatomical defects, endocrine dysfunction, etc., are so inconstant that they will not serve for differential diagnosis; and in the specific clinical types where such defects are most frequently found the diagnosis can be established without difficulty.

As we have previously shown, educational and social achievements are to some extent indicated by test performance. Therefore the psychological test affords a convenient tool for indicating retardation. This does not mean that test results alone are sufficient. At the lower level, represented by IQ's of less than 40 to 50, probably no further information is needed. At higher levels diagnosis must consider not only psychological test performance but also educational and social adaptation. It seems fair to conclude that practical diagnosis depends upon psychological, social, pedagogical and medical criteria in that order.

Degree of Deficiency—In addition to considering feeble-mindedness as a general condition, we may at this point distinguish four degrees that are commonly enumerated. The definition of the American Association for the Study of Feeble-mindedness given above included three such divisions. In the light of subsequent investigations four groups might well be described.

The lowest grade of mental deficiency is *idiocy*. Idiots never have a mental development greater than two years, and in children this is represented by an IQ of from 0 to around 15. They are unable to look after themselves adequately. The lower grades usually cannot feed, dress, or keep themselves clean, and cannot protect themselves from common physical dangers. The highest grades can be taught to care for themselves within narrow limits.

The next higher level is *imbecility*. Imbeciles range in M A from about three years to six or seven, and in children have an I.Q. range from about 15 to 45 or 50. They can rarely be taught to read or write, cannot profit from ordinary school work, but may be trained to do simple manual labor.

The highest degree of feeble-mindedness is called, in America, *moronity*. Adult morons have mental ages from six or seven to eight or nine, and in children the I.Q. range is from 45 to 50 to about 60. Morons may learn reading, writing and arithmetic in a very elementary fashion. They can be trained to do many unskilled and semi-skilled tasks and may successfully work under supervision.

The fourth and highest class that we would divide mentally deficient persons into may be called *border-line*, or *subcultural normals*. These individuals have a mental age from eight or nine to eleven or twelve, and in children have an I.Q. from 60 to 70. Such persons may achieve as high as fourth or fifth grade in school, may be trained in many semi-skilled occupations, but usually require a good deal of supervision. The final diagnosis of feeble-mindedness in these cases must rest on their social history.

CAUSES

From the above discussion of various definitions of amentia or feeble-mindedness, it is evident that the condition is determinable only in terms of behavior, on a test, in school, in society, or elsewhere. In so far as feeble-mindedness is a deficient sort of behavior, then any consideration of etiology must take into account all factors which may reduce the efficiency of behavior. Some such factors are eliminated by differentials in the definition; thus the blind, the insane, the deaf, etc., are excluded. Such conditions as these are diagnosed with sufficient facility to cause no confusion. The principal differential is that the defect shall be ontogenetic, i.e., it shall have been evident in the development of the individual concerned. On this basis it is usual to divide etiologic factors into two major groups: primary and secondary. The former includes hereditary or congenital factors, while the latter is devoted to post-natal conditions that affect development.

Since Goddard's study of the Kallikak family in 1913 and his insistence upon the importance of heredity in the etiology of amentia, this has been almost too tenaciously held as the most important cause.

Hollingsworth (1920) decided that about 90 per cent of all cases were inherited, and Tredgold (1929) put the percentage at 80.

Larsen (1931) classified 762 cases from 1000 studied as endogenous feeble-mindedness. This included 115 cases of Mongols, microcephalics and endocrine dystrophies which are congenital but probably not hereditary. About half of the remainder were classed as hereditary on the negative grounds of no other cause being found. Factors known to be of possible hereditary significance were present in probably not more than a third of the thousand cases. This reduced figure is of the order of those reported by Doll and Penrose as given below.

In 1933 Pintner could say with almost dogmatic finality, "Amentia caused by disease or accident is, therefore, a relatively minor consideration." Yet Doll (1934), reporting a rather careful survey of the population at the Vineland Training School, divided the cases into 30 per cent plausibly hereditary, 30 per cent secondary, and 40 per cent unknown or unclassified because the etiological factors were not clear. Penrose (1934) reports similar findings. In a careful survey of 513 institutional inmates he found 29 per cent classifiable as primary aments, i.e., hereditary; 9 per cent secondary, and 62 per cent unclassifiable in the dichotomy because the hereditary and acquired factors could not be separated. This would suggest that the future may show a decided change in the attitude toward the etiology of feeble-mindedness.

The evidence in favor of heredity as a cause of feeble-mindedness has come entirely from studies of the families of defective individuals. Dugdale (1877) presented the first study of a degenerate family called the Jukes. He traced this family through seven generations starting about 1740, and in 1915 Estabrook (1916) continued the history to that date. This family had an extremely disproportionate number of paupers, criminals, prostitutes and other socially degenerate persons. Dugdale thought of these asocial forms of behavior as inherited, but said little about feeble-mindedness. Estabrook felt that mental deficiency was an outstanding characteristic of the family; and yet of the 2820 persons included in his study, only 131 or 4.5 per cent were sufficiently defective as to require custodial care. When one realizes that psychological diagnostic methods were lacking at that date, and then compares this percentage with those reported in some surveys, it would appear that the emphasis on feeble-mindedness may have been misplaced.

Probably the best-known studies in the heredity of feeble-mindedness are those by Goddard. His first study is of the Kallikak family (1913), stemming in two lines from the union of one Martin Kallikak, first with a barmaid, and later with a lawful wife. The first line shows a much higher proportion of social degenerates than the second. Goddard, of course, attributes this degeneracy to feeble-mindedness in the family line descending from the barmaid. It appears somewhat surprising how uncritically this study has been accepted almost universally as proof that feeble-mindedness is inherited. One might like to know just how a field social worker in 1911 could really be sure that a barmaid in a tavern during the American Revolution was feeble-minded. While test performance is not all-important, yet it would be interesting to have data, at least for the living members of the clan, on those tests that were available in 1911. It appears also that no particular account was taken of the fact that these people were living in a poor, isolated community and therefore had opportunity of learning to behave only as those about them did. Perhaps a careful study of the original data upon which this book is based, if they are still in existence, might well repay the effort expended. Under the stimulus of this work, Goddard proceeded to study family histories wholesale; and in a second volume (1914) he presented about 300 family histories of feeble-minded persons. He concludes that 54 per cent of the histories show indubitable inheritance—in fact, as definite and simple inheritance as is exhibited by hair or eye color. Furthermore, 11 per cent were classed as probably hereditary, and 12 per cent as having neuropathic ancestry, a total of 77 per cent resulting from heredity. Compare this figure with the 30 per cent given by Doll (1934), based on inmates in the same institution. It hardly seems possible that both of these can be right.

Studies by Danielson and Davenport (1921), Estabrook and Davenport (1912), and Kite (1913) merely reiterate the findings in the Jukes and Kallikaks. It must be mentioned that Davenport by 1921 changed from his apparent agreement with Goddard that feeble-mindedness was a Mendelian recessive trait to the position that it was a sociological condition caused by the absence of various sets of traits in individual cases.

When one considers these studies carefully it appears that they may not be as crucial as many would believe. None of them can answer the question whether the social condition of these people was

as it was because they were feeble-minded or whether they were feeble-minded because of their social condition. As Darrow (1925) points out anent the often-made comparison between the Jukes and the Edwards families, "The Jukeses in a barren, rocky, isolated community are contrasted in the literature of eugenics with a family in the fertile Connecticut River valley—a family in which a few members having fame were able to pass this heritage to others down the line. Why go out of the way to even infer that the germ-plasm had anything to do with either case? The generations back of Max [Jukes] and those back of Jonathan [Edwards] were infinitely greater in number than the generations that have so far followed. In any fairly homogeneous community one needs only to go a little way back to find the lines crossed and the germ-plasm mixed. Otherwise there couldn't possibly be enough ancestors to go around. These two historical sires are first discovered living less than 200 miles from each other. I, for one, am willing to contend that it is safe to bet that Max came from the East, and a not unreasonable guess that the ancestors of the Edwardses and Jukeses were mixed."

In spite of the widespread acceptance of the theory of inheritance of feeble-mindedness, based upon such studies as we have mentioned, scientific caution demands the withholding of final judgment until all possibilities of social inheritance are adequately controlled. We cannot accept sociological studies as evidence of biological inheritance.

This does not mean that biological inheritance may not contribute ✓ to the etiology of amentia. This condition, we have shown, is a way of behaving, and there are grave doubts that behavior as such is inherited. However, the feeble-minded exhibit an inferiority in physical as well as mental characteristics; and in so far as the biologists can show the inheritance of biological abnormalities, just that far can we accept heredity as an etiologic factor. Deficient biological make-up may set limits to behavioral achievements, and it is this last which indicates feeble-mindedness. In this indirect sense, feeble-mindedness may be inherited.

Another class of causative factors of primary amentia is congenital, i.e., they are operative *in utero*. While a number of such factors may be suggested, there is a paucity of data concerning them. Nutritional deficiencies, accidents, and infections during pregnancy have all been mentioned as possibilities. Among infections, syphilis in the mother has often been considered important because almost inevitably the

offspring of an untreated syphilitic mother will exhibit signs of congenital syphilis. Davis (1935), after carefully surveying the literature on this question, concludes that there is little evidence of a direct causal relationship between congenital syphilis and feeble-mindedness. She calculated an incidence of 3.68 per cent from the data of 16 studies including 177,216 children from hospitals and institutions who were presumably unselected on any direct basis of mental ability. From 23 studies including 19,712 feeble-minded children in hospitals and institutions the calculated incidence was 7.3 per cent. This difference in incidence is hardly great enough to demonstrate a widespread relation between the two conditions, although in those cases where both conditions are observed the syphilis may well be of etiologic moment.

Doll (1929) has described a case of microcephaly apparently resulting from X-ray irradiation of the mother during pregnancy. Even more definite evidence of this possibility is suggested by data published by Murphy (1928) on the offspring of mothers who had been subjected to therapeutic pelvic irradiation. The pertinent data are summarized in Table XII.

TABLE XII—EFFECTS OF PELVIC X-RAY IRRADIATION OF PREGNANT WOMEN ON THEIR CHILDREN

| Treatment | Mothers Number | Children | | | | | | | |
|------------------|----------------|----------|------|---------------|------|---------------------|------|----------|------|
| | | Normal | | Microcephalic | | Other wise Abnormal | | Abortion | |
| | | No | % | No. | % | No | % | No | % |
| During pregnancy | 53 | 17 | 32.1 | 14 | 26.4 | 13 | 24.5 | 9 | 17.0 |
| Before pregnancy | 265 | 188 | 70.9 | 1 | .38 | 9 | 3.4 | 67 | 25.3 |

Mongolism is apparently due to abnormal physiological conditions in the mother, and true cretinism is associable to a hypothyroidism in the mother. (See page 127.) Whatever the factors are which are operative in producing developmental anomalies such as clubfeet, congenital dislocation of the hip, malformation of the heart, and the like, they may of course affect the nervous system crucially, or, perhaps more important, they may interfere with the biologically ade-

quate integration of the organism, this interference shows itself as deficient behavioral adjustment. The significance of such factors must not be underestimated because of the lack of information about them. Rather the need of more careful histories of pre-natal condition is indicated.

Secondary or post-natally acquired amentia may be grouped into at least three etiologic classes: traumatic, infectious, and endocrinopathic. The most important of the traumatic group is trauma associated with labor and delivery, i.e., birth injuries. Doll, Phelps and Melcher (1932) have recently reemphasized the importance of this etiologic factor. Head trauma during infancy and childhood is of doubtful etiologic moment. While this is the favorite reason assigned by parents for their child's deficiency, there appears to be little actual evidence of its importance. In the infectious group, encephalitis lethargica is of importance. Other infectious processes that include cerebrospinal meningitis, polioencephalitis, measles, or any infection that has a widespread neural involvement. Endocrinopathies of significance in mental deficiency include hypothyroidism (cretinism) and pituitary dysfunctions. We shall more fully discuss the various conditions of secondary amentia in connection with problems of diagnosis.

As feeble-mindedness is primarily evidenced by social inadequacy there is a possibility that certain individuals may exhibit what amounts to amentia because of lack of opportunities. While probably infrequent, this possibility must not be neglected. Such lack may come from isolation or entirely inadequate environmental conditions. The following case illustrates how presumably feeble-minded behavior was caused by difficulties in making speech contacts with other people, and the effect of their attitudes on the subject. There might, of course, be some question of the diagnosis of mental deficiency.

The case was studied several years before the advent of standardized tests, so that we can take the author's estimate of "at least a dozen years" retardation only as a subjective estimate. In modern terms, this boy would be classed as a moron, both on the history of behavior given and on the estimated mental age. His interest in mathematics might have suggested that the community's estimate of him was too low. However, in view of all the evidence, it seems fair to believe that if he were brought to a clinic today he would be classed as high-grade feeble-minded.

Case Number 1 (Makuen, 1898). My attention was first called to the great importance of the training of speech as a factor in mental development by a patient who was referred to me in the autumn of 1894, and perhaps I can begin my paper in no better way than by relating briefly the history of this interesting case.

The patient was a lad 19 years of age, in fairly good physical condition, although he was round-shouldered and sunken chested to such an extent as to amount almost to a deformity. This I attributed to his laborious farmwork, coupled with very faulty breathing and vocalization. Mentally he was younger than his age by at least a dozen years and although he had been in school rather more than the average country boy he was exceedingly backward and evinced a great distaste for study of all kinds, with the possible exception of mathematics. This will not be wondered at when I tell you that his speech was entirely unintelligible except to those in his immediate family who had learned, by long association, to decipher the greater part of his limited vocabulary which consisted of the veriest jargon. It was only after the most earnest persuasion by their friends that his people were induced to consult me with reference to his speech, for they had been led to believe by consultations with their family physician and others that the boy was feeble-minded, imbecilic, and incapable of much, if any, improvement. Judging from his appearance, this diagnosis seemed a most plausible one, for the face was void of any expression, the mouth was open, the nose prominent, and the eyes staring, the whole picture being strikingly characteristic. There were no adenoid vegetations in the vault of the pharynx nor was there hypertrophy of the faucial tonsils or other glands in the region of the throat and neck. No other members of his family were similarly afflicted and only a slight tubercular taint was revealed in his history.

A positive diagnosis was withheld, nor could a prognosis be ventured until after further study of the case. The fact that he showed a fondness and a certain aptitude for mathematics made it clear that the perceptive and reasoning faculties of the mind were intact and only possibly awaiting development. Will power was not wanting, as was shown by a marked desire to overcome the obstacles which lay in his way and which he seemed to think his friends and physician did not understand or appreciate.

His emotional nature was developed to some extent as was evinced by an intense dislike for the physician and others who said that he was feeble-minded and incapable of being improved. In short, the various faculties of the mind seemed to exist in a dwarfed condition and only

needed something to lead them out, and stimulate them to growth and action. It was observed that he had a defective tongue. This organ was so bound down to the floor of the mouth as to make any free action of it quite impossible. An operation was performed by means of which the tongue was given greater freedom of motion, and the improvement in speech from that time was most marked and satisfactory. The genioglossus muscle was too short. Dr Daniel G. Brinton informs me that the Ancients observed that a defect in this muscle was frequently associated with feeble mentality and that it was supposed in some way to have a causal relation to imbecility. However that may be, my patient showed very little disposition to improve until after the defect was corrected, although the same careful training was carried on for several weeks before the operation that was so effectual after his operation.

I was able to enlist the interest and service of a young woman who was by no means an expert, but who carried out my theories of training with great accuracy and in nine or ten months the boy learned to recite whole scenes from Shakespeare with great articulatory precision and with some considerable dramatic appreciation. His mental grasp of the subject matter was no less marvelous than the clearness and sharpness of his articulation. The special speech-training continued for about two years and it seemed to open up to him a new world. He was constantly not only hearing but seeing and feeling things he had never dreamed of before. He became very ambitious and decided to prepare for Harvard College. He went to a boarding school for a year, where he gave a very excellent account of himself, and he is now in the Neff College of Oratory, Philadelphia, where I am told he is doing very good work, and he still hopes to go to Harvard.

DIAGNOSIS

Diagnosis of feeble-mindedness has real value only in relation to its function in determining a basis for management. Potter (1933) says: "The generally used terminology of moron, imbecile and idiot, as sub-groups of mental deficiency, is entirely inadequate for clinical purposes and represents merely a psychometrically determined differentiation based on the relative inadequacy of the functioning of intelligence." He then proceeds to argue that a really serviceable diagnostic classification of the feeble-minded should be based on organopathological grounds. While there is no doubt that such medical diagnoses are of the greatest importance, it is absurd to say that classification by degree of defect is inadequate. The problem of han-

ding the feeble-minded is a social one; it must aim to train or care for those individuals so that at least they will not be harmful elements in society, and at best they may make some contribution. Within limits—perhaps narrow ones, it is true—it is just these “merely psychometrically determined differentiations” that afford one of the most economical methods of determining how much training may be possible. Furthermore, the degrees of idiot, imbecile, and moron are not wholly defined by psychometric results, nor does any capable clinical psychologist today attempt to so define them.

Essentially our diagnostic problem is this: Given a child who exhibits difficulty in acquiring those forms of behavior thought desirable or necessary for social adjustment, we are to find, first, whether or not this inability is due to deficiencies which experience has taught us will make it impossible for him ever to acquire them to a satisfactory degree, and, secondly, to determine how severe those deficiencies are.

It is quite true that test results or mental ages alone will not solve either of these questions. Fernald (1917) says: “The writer once assembled in a room 252 individuals with a mental age of 8 years. The individuals in this group varied in physical age from twelve to fifty years. Some of them had learned to read, while others had not been able to do so. Some were capable of elementary computations, while others found the simplest concept of numbers almost beyond their capacity. We had been able to develop some of them to become fairly expert mechanics, but others were able to do only the simplest sort of manual labor. Some were conscientious and relatively trustworthy; others were most untruthful, dishonest and unmoial. In some, sex proclivities seemed to be the dominant interest, while in others the sex interest seemed to be entirely normal. This variability shows that a measureable intellectual level is not the only factor in the study of the feeble-minded and in the working out of the type of care and training that they need.” Anyone who has worked with the feeble-minded recognizes the accuracy of these observations. Still it is not at all obvious that classification of cases on the basis of organic pathology will further the desired ends to a greater degree, or even as far as the determination of intelligence level.

An adequate diagnostic schedule for use with the feeble-minded is almost coextensive with the history schedule presented in Chapter II. We must, however, consider certain phases of the history in general relation to the problem of feeble-mindedness.

The problem of diagnosis divides itself into two parts (1) in relation to the lower grades of mental deficiency, and (2) in relation to the moron and border-line case.

The first of these offers little difficulty. By definition, the idiot is incapable of anything but the most elementary activities largely concerned with his own well-being. Low-grade idiots are even incapable of this; they cannot feed themselves or keep themselves clean, they do not avoid ordinary dangers. Their limitations are roughly comparable to those of the infant of less than two years. Therefore a criterion in terms of a mental age of less than two years in adults, or an I.Q. of less than 15 in children, would appear to be legitimate. In ordinary circumstances the history of the child's development and present behavior is sufficient to establish a diagnosis. Psychometrics can only add a tentative quantification and thence a basis for prognosis.

A difference between high-grade idiots and low-grade imbeciles is indistinguishable. The boundary usually accepted, i.e., a mental age of about two years, is only an arbitrary, convenient value. Therefore problems of diagnosis are similar to those for idiots. Developmental history and present behavior may be sufficient to establish a diagnosis, with psychometric results adding something to prognosis.

Medical diagnosis is important in these lower grades of defects, especially for determining possible etiology. But such medical diagnosis does not, *per se*, enable one to establish the fact or degree of mental deficiency. On the other hand, the determination of an M.A. or I.Q. does not solve the problem of management. Such figures may indicate the limits of achievement in the majority of cases; but final disposal must rest upon further data, as discussed subsequently in relation to the moron and border-line groups.

Border-line diagnosis requires careful interpretation of data from psychological, social, educational, medical, and other examinations. That it is not a simple matter is attested to by the number of writers who have discussed the problems involved. Even this widespread attention to the problem has not resulted in a wholly satisfactory diagnostic method. As late as 1935 Doll could say. "The conclusion suggested by this dilemma [the inadequacy of test results] is that serious work must be done toward improving the criteria of mental deficiency or at least of validating more precisely the limits within which the criteria are valid." We shall not undertake to offer the final method of diagnosis

but shall be content to call attention to what appear to be significant methods.

One further preliminary word must be said. Regardless of how adequate a plan is presented, of how precise are the differential factors, of how detailed are the directions, diagnosis cannot be read about in a book and then applied to clinical cases. Differential diagnosis of feeble-mindedness is an art, and as an art is improved through experience. The physician learns diagnosis not from the textbook but in the clinic. Likewise the clinical psychologist must see the textbook account in operation with living patients, and he must take an active part in the examinations. Clinical experience is the *sine qua non* of all diagnostic ability.

Some twenty years ago the late Dr. Fernald (1917) proposed ten "Fields of Inquiry" as a working basis for individual case study in border-line diagnosis. This plan is a prototype of all subsequent proposals. The ten fields to be covered are shown in Table XIII. The data for each of these fields were evaluated from case histories, if a case showed evidence of defect it was marked minus, if it did not evidence defect it was marked plus. In his paper several charts are presented showing the frequency with which the various fields were marked minus in several groups of patients. The figures in Table XIII are estimated from his chart number 1 which is based on 614 feeble-minded subjects and 61 diagnosed as "not feeble-minded." Comparison of these percentages suggests something of the relative importance of the various fields of inquiry. Presumably those fields which are negative with much greater frequency in the feeble-minded group are of more diagnostic significance than those which are almost the same in each group.

In the following summary of diagnostic points all of the ten fields suggested by Fernald are included, but we have made some rearrangements and condensations. Further information concerning the items of this outline was given in Chapters II and III.

1. *Psychometric Examination*—At least one verbal (Binet) and one non-verbal performance test should be given. These should be supplemented by a variety of tests whenever possible. Consistently low scores on several types of tests, i.e., with I.Q.'s or performance ratios consistently below about 60, are strong diagnostic evidence of feeble-mindedness. Consistent performances represented by ratios from 60 to

TABLE XIII.—FERNALD'S TEN ' FIELDS OF INQUIRY''

| | Feeble- minded | Not Feeble- minded | A-B | A B |
|---|-------------------|--------------------------|-----|--------|
| | A | B | C | D |
| 1 Physical | 80 | 33 | 47 | 2 42 |
| 2 Family history | 73 | 56 | 17 | 1 30 |
| 3 Personal developmental history | 90 | 53 | 37 | 1 70 |
| 4 School progress | 95 | 33 | 62 | 2 88 |
| 5 Examination school work | 95 | 16 | 79 | 5 94 |
| 6 Practical knowledge and general information | 86 | 6 | 80 | 14 33 |
| 7 Social history and relations | 89 | 39 | 50 | 2 28 |
| 8 Economic efficiency | 85 | 30 | 55 | 2 83 |
| 9 Moral reactions | 72 | 70 | 2 | 1 03 |
| 10 Mental examination | 95 | 13 | 82 | 7 30 |

75 or 80 may indicate feeble-mindedness but require strong support to establish the diagnosis. Inconsistent performances on tests of different types must be interpreted only in the light of other data.

The following two cases illustrate some characteristics of feeble-minded test performance. Case Number 2 reproduces exactly the order of presentation of the Stanford-Binet items and the child's responses. Case Number 3 presents an analysis of the test performance of an unstable moron boy.

Case Number 2 (I U. Clinic, B-1140) C B, female, C A 12-2. In ungraded group in school in which she is doing primary work. Binet M.A. 6-8, I Q 55. The exact order of presentation of the Binet items and the girl's responses were as follows.

IX, 1 (Date)—"Wednesday, June, 1934." (Correct Wednesday, November 14, 1934)

VIII, 2 (Counting backwards)—20, 19, 18, 17, 16, 15, 16, 14, 15, 16, 17, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

IX, 3 (Making change)—(a) 4 from 10, "five cents"
(b) 4 from 25, "twenty-five cents"

VIII, 3 (Comprehension)—(a) "Pay back."
(b) "Run"

IX, 5 (Making sentences)—(a) (Boy, river, ball, "I have a dog." Directions were repeated "I have a ball." Directions again repeated. No response. Examiner demonstrates.
(b) (Work, money, men) "The men do work."

- VIII, 5 (Definitions)—(a) Balloon. "Play with it."
 (b) Tiger "A great big."
 (c) Football "Play with it"
- VII, 2 (Pictures)—(a) "House, little girl crying, woman sitting in chair, cat asleep"
 (b) "Boat in the water, men driving it, man helping push, man and woman"
- VII, 5 (Differences)—(a) "Fly is little and butterfly is big"
 (b) "Stone is wood and egg is glass."
 (c) "Glass is glass and wood is wood"
- IX, Alt 1 (Months)—"June, July, August, September, November, December, August, November, December"
- IX, 6 (Rhymes)—(a) (day) "Today, may, may, no I got that" (Time limit up)
 (b) (mill). "Mill, nil" (Time limit up)
 (Digits forward)—(641) "641"
 (4739) "4739"
 (31759) "3759"
 (42835) "4285"
 (98176) "8916"
- VIII, 4 (Similarities)—(a) (Wood and coal) "Burn the same."
 (b) (Apple and peach). "Apple tastes different and peach tastes different."
 (c) (Iron and silver) "Iron is iron and silver is silver"
- VI, 6 (Repeat sentences)—(a) "We are having a good time They are a mouse in the trap."
 (b) "Walter did have a fine time on vacation time. He went fishing everytime."
 (Digits backwards)—(283) "382"
 (6528) "6528"
 (4937) "4937"
 (8629) "629"
- VI, 4 (Comprehension)—(a) "Run, bring umbrella."
 (b) "Run out, call fireman"
- VI, 5 (Knowing coins)—"Nickel, penny, quarter, dime."

The other three tests of year VI—right and left, omissions, and counting—she successfully passed

- (Vocabulary)—(1 gown). "You wear"
 (2. top). "Wear on your head." Examiner gave word again. "You dance in"

- (3 scorch). "Scorch your clothes"
 - (4 puddle). "Water."
 - (5. envelope) "Put letters in"
 - (6 rule). "Not talk."
 - (7 health). "You eat thing and make you health"
 - (8 eyelash) Pointed to eyebrow.
- Did not know the next five words.

Case Number 3 (Ordahl, 1923). This case is presented as an illustrative analysis of the Binet test performance of an unstable, high-grade moron. It is evident that such analysis of the test responses is of value in the qualitative interpretation of test results.

Male, Age 18-7. M.A. 10-5. I.Q. 65 Psychopathic. In year VIII patient responds as follows. To test No 4 "In what way are (c) Iron and silver alike?" Ans "You use both" (d) "Ship and automobile?" Ans "You use both too." In (c) and (d) above, patient is entirely satisfied with his answers and disinclined to reconsider his statements. To be satisfied with results when questioned is not in keeping with the mental level of ten. The responses are not strictly in accord with the situation presented in the question. The similarity is too general. Had attention been focused on the idea of similarities common to the two objects in question, more particular relationships would have come into consciousness. For these reasons, the responses are irrelevant.

In year group IX, there are no irrelevant responses, but in year group X, reactions are significant. In vocabulary definitions, pork is defined as meat from a lamb; dungeon, a place away down. (No further idea of use.) These responses are scored as irrelevant, because life experience, as shown by reactions, has been favorable, and mental level adequate for more perfect associations to have been made. Questioning reveals an acquaintance with the various meats, also with animals used for meat, and yet the relationship between a particular meat and the animal producing it has not been noted. To know that a dungeon is a place "away down," and not to know its use, indicates an erraticism in fundamental perceptions, a satisfaction with superficial relationships, and a tendency to make irrelevant associations.

In recall of ideas in paragraph just read, year X, for "three houses burned," recalls, "A lot of people were burned." This is classed as irrelevant, for the reason that it is contrary to fact and would indicate that memory images are incorrectly related in consciousness. In comprehension test (c) of this same year group, "Why should we judge a person more by his actions than by his words?" patient answers, "I can tell by their actions whether they like me or not." This response is not only irrelevant, but has miscarried, i.e., the purpose of determin-

ing the qualities of another person has become changed to the problem of determining the other person's attitude toward himself. In thus diverting trends of thought to the personal self, there is, aside from irrelevancy of association, an indication of psychopathy.

In year XII, dissected sentence (a). "For the started an we countiy early at hour," rearranged to read. "We started for the countiy, and started early at hour" (Other two dissected sentences were correctly arranged, but patient failed to correct (a) after error was pointed out.) Reactions of this kind do not admit of definite analysis; but, in general, failure on one of a series of tests of apparently the same degree of difficulty, not corrected when error is pointed out, is suggestive of instability. In repeating five digits backwards, all three series are given in disorder. On stern command to "Do as I tell you, and repeat these numbers straight backwards," succeeded on the first of three series, but failed on all of a third series. This ability to achieve success when extraordinary means are taken to focus and sustain attention is indicative of instability due to some cause other than lack of intelligence.

In the similarities test, there is success only on the last of five similarities. Typical of responses for this group of tests. "Cow, snake and sparrow ain't alike. They don't talk alike." Urged to try to find some likeness, replied with a friendly air of having gotten rid of the bother, "I just got through telling you they don't talk alike."

In year XIV, response to clock test, which follows, is typical of all responses for this year group. Given 22 minutes past 6, to interchange hands of watch and tell what time it would be. Solution. "You see, the short hand would be on 6 or a little past, and the longer hand would be on 4 or a little past; then, if you change them, the long hand would be on 6, or on its way to 7. Why! That would be 25 minutes to 7 o'clock." Examiner: "Are you sure you didn't make a slip?" Subject: "Let's see. What did you say was the time?" Examiner: "22 past 6." Subject: "Oh I see! the little hand would be near 4. Well! Then it would be halfpast 4 about." This response is typical. Subject comprehends the problem, and he has the necessary imagery or ideas to solve the problem, but proper elements are not on tap at the right time to prevent mental processes from slipping away on a tangent.

Diagnosis: Moron. Intellectually unstable, probably psychopathic; not likely to adjust. Irrelevant associations occur two years below the mental level obtained, e.g., mental age is 10-5; irrelevant responses occur in year VIII. On the other hand, intellectual capacity—not sufficient to score, however—extends into year XIV. He can repeat five digits backwards, in XII, if sternly commanded to do so. He solves

one of the arithmetic problems in year XIV, and gives evidence of ability to solve the other two, but processes miscarry in the same way as shown in the clock problem, year XIV. The presence of a slightly distracting stimulus is apparently sufficient to upset a relative trend of associations, and to render results practically absurd.

The capacity to thus function at a level three years above the mental age earned suggests a fundamental tendency to irrelevancy of association. Irrelevancy of association occurs in 13 out of 32 tests and extends from year VIII to year XVI. The "scattering" is not so significant as is the active qualitatively irrelevant associations made, and the evident higher intellectual capacity possessed, which for some reason is interfered with and not permitted to function to its fullest extent.

Inferior use is made of capacity possessed, and irrelevancy of association extends to ideas as well as to relations which may be simply perceived. It is manifestly a simpler process to note similarities between an apple and a peach than to determine why one should judge by actions rather than by words. The patient's response to the latter problem indicates an almost total miscarriage of ideas and a pathological regard for self.

Emotional responses appear normal, with the exception, however, of a tendency to laugh slightly at situations not intrinsically or by association funny. On account of the prevailing tendency to irrelevant associations, inferior application of intelligence possessed, and a slight variation in emotional attitude, this case is referred to the psychiatrist.

Physical examination · Negative

Psychiatric examinations and observation · Psychopathic personality, without psychosis.

School · Grade VII. Attended several private schools, dismissed from all on account of conduct, stealing and "would not study."

Occupation · At junior republic, became interested in gardening and is reported to do well at this kind of work. At this institution, he has been tried over a period of from 4 to 6 weeks at various occupations, but trainers report: "Makes no progress, too unstable."

Conduct reported: Pathological liar and a petty thief. At institution is inclined to lie, but does not steal.

Heredity · Father reported to be irresponsible. Capable but does not make sensible use of capacities. One sister had convulsions from infancy to seven years of age. Otherwise history negative.

2 *Educational Examination* —The division made by Fernald between school progress and educational achievement would seem to be a good one. School retardation of three years or more is very suggestive

of deficiency amounting to feeble-mindedness. There is no necessary close relationship between school advance and educational achievement as measured on standardized tests. Dull children are often promoted on a basis of physical size rather than classroom achievement. Accomplishment ratios of 100 or less in children having I.Q.'s below 60 to 70 strengthen the diagnosis of feeble-mindedness. If the accomplishment ratio is over 100 it would suggest that the child's intelligence test performance is spuriously low.

As poor reading ability brings both intelligence test and achievement test performance down, the possibility of its influence must be eliminated. Especially in clinical work with school children does one find children referred as defective who, upon examination, are found to be average but have a special reading disability. Teachers' reports of children's academic ability or intelligence must be carefully evaluated. However, the teacher's judgment as to comparative ability in the mechanics of reading, arithmetic or spelling, and the more abstract aspects of these subjects, may be important. Defectives may do fairly well in the former; but they seldom, if ever, show aptitude in the latter.

3. *Social History*—In the social history are included Fernald's "Fields of Inquiry" numbers 6, 7, 8, and 9. Environmental circumstances are probably of little diagnostic value. While feeble-mindedness, especially of the higher grades, is frequently found in the lower socioeconomic classes and those living under less desirable environmental conditions, the converse does not follow, that people living under such conditions are usually feeble-minded. Economic or vocational adjustments may be important. Frequent changing from one unskilled, ill-paid job to another suggests inability to make an economic adjustment. Reasons for leaving jobs as reported by the subject or the employers may be suggestive. Long tenure on an unskilled, monotonous job may also indicate a lack of ability to profit by experience and thus advance.

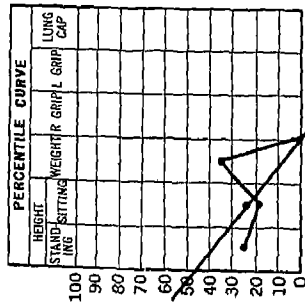
In children perhaps the most easily observed social behavior is in connection with play interests and companions. Consistent enjoyment and contentment with play material decidedly below the child's chronological age, and preferred association with children much younger are valuable corroborative evidence of low ability. General knowledge of current affairs of local or more extensive import appears to be extremely significant. Such knowledge

may be sampled by informal questions appropriate to the time and place. The examiner must exercise care in keeping the questions uniform for different subjects.

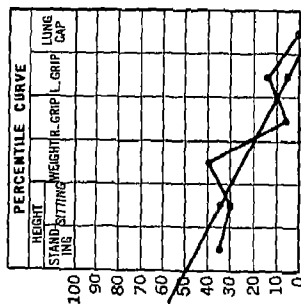
Overt delinquencies, as such, are probably not very indicative. Pinter (1931) lists data from forty-one studies reporting the percentages of feeble-mindedness among juvenile delinquents. These percentages range from 7 to 93, with a median at 30. However, when the studies are divided into two groups on the basis of their dates of publication, the earlier 21 studies have a median of 45 per cent, while for the later 21 studies the median is only 21 per cent. Miner in 1918 carefully evaluated the evidence available at that date and concluded, "I see nothing in the present evidence from mental tests to indicate that the frequency of mental deficient who might justly be sent to institutions from among the ordinary children who come before the juvenile courts of the country would be over 10 per cent." It is true that the average I.Q.'s found for groups of delinquents agree somewhat more closely, and such averages are usually around 80. But these figures are found on children in courts or institutions for delinquents, i.e., on those children who were caught. From other evidence it would seem reasonable to expect less intelligent children to be caught; therefore average I.Q.'s found with such children may be misleading.

Probably of more diagnostic significance than the mere fact of delinquency is the type of offense and the circumstance under which it took place. Crimes or misdemeanors committed at the instigation of another person may be evidence of suggestibility, which as a characteristic of feeble-mindedness may afford added weight to a diagnosis. Thus stealing and sexual immorality among the feeble-minded are frequently at the suggestion of another, usually not feeble-minded, person. The evidence, however, hardly admits delinquency, *per se*, as a very significant factor in diagnosing feeble-mindedness.

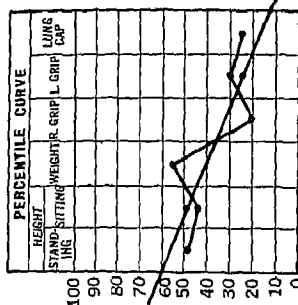
4. *Developmental History*—The ontogenetic history of feeble-minded children usually shows retardation in several directions. There may be delayed dentition or other indication of slow physiological development. Locomotor behavior, talking, bowel and bladder control, habits of feeding and dressing and the like will frequently be established at significantly later ages than in normal children. Such findings are of significance because they indicate that the retardation has been present at an early age and is not something of recent appearance.



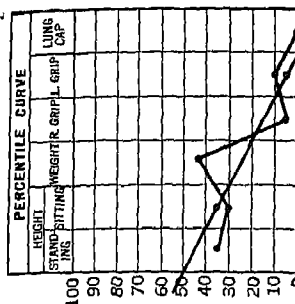
104 Idiots - both sexes
Av age 17, Av ment. 18



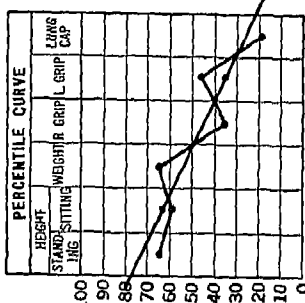
250 Imbeciles - both sexes
Av age 19, Av ment. 52



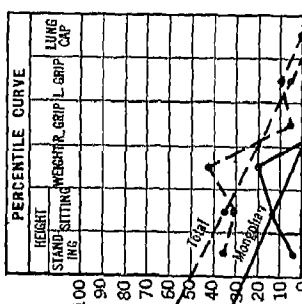
123 Morons - both sexes
Av age 21, Av ment. 88



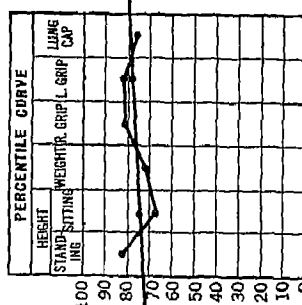
477 Feeble-minded - total
Av age 19, Av ment. 54



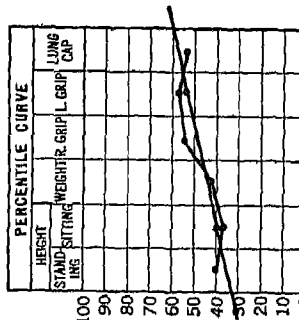
21 Potential F M - both sexes
Av age 8.4, Av ment. 67



22 Mongolians compared
with total feeble-minded



9 Normal children - both sexes
Av age 8, Av ment. 9



70 Normal-school students
Av age 18

Figure 8 —Typical Curves of Anthropometric Measures (After Doll)

| Percentile | Number of Cases |
|------------|-----------------|
| 5- 10 | 18 |
| 11- 20 | 6 |
| 21- 30 | 1 |
| 31- 40 | 3 |
| 41- 50 | 3 |
| 51- 60 | 2 |
| 61- 70 | 3 |
| 71- 80 | 3 |
| 81- 90 | 4 |
| 91-100 | 7 |

It may be that Porteus has placed too much emphasis on the value of these measurements, as for instance Paterson (1930) claims. Porteus' statement, "the use of brain capacity estimation and the resulting percentile tables will not detect all cases of even possible mental subnormality [but it does] form a rapid method of obtaining a first approximation," would seem however, to be a conservative estimate of their diagnostic importance.

Some of the difficulties of diagnosis are illustrated in the following two unusual cases. Regarding the first one, Dr Babcock says: "She is selected as a case of a mentally inferior type of individual whose social background has also been extremely unsatisfactory. Without mental examination the fact of her mental deficiency would not have been apparent. She would probably have been committed to the Industrial School until twenty years of age and then have been turned adult in the community."

Case Number 4 (Babcock, 1927). When Philomena was about 8 years old, her father, a Filipino plantation laborer, killed his wife's lover, and was sent to the Oahu, Hawaii, prison. The child's mother promptly deserted her and Philomena was left to get on as best she could. She lived around the plantation with the Filipino men, the property of various ones in turn, doing their simple housework, and receiving none of the usual privileges of childhood.

In November (1926), alarmed by their belief that Philomena, then 12 years old, was pregnant, the Filipinos decided that the responsibility might be fixed upon them, so they brought the girl to Honolulu to her father who was still in jail. The situation was naturally too much for the father, but a Chinese storekeeper who lived near the jail took the child to the Salvation Army Girls' Home, where she remained for two months.

Later developments showed that the former fears were ungrounded; but then, since some arrangements had to be made for the child's future, she was turned over to the Child Placement Bureau. The

problem presented was whether or not, if she were given a good home and regular schooling, Philomena could become capable of self-management and self-support, and put these very sordid early experiences behind her. Before any steps were taken toward such home placement she was brought to the Clinic for a mental examination.

The Binet and Porteus Maze tests both placed her at a 6-year mental level, with an IQ of 48. In the Binet tests she could not differentiate right and left, could not detect the missing features, repeat 5 digits in order or 3 digits backwards. In spite of the fact that she presumably had been housekeeping for various men for at least 4 years, she did not recognize all of the coins, could not make change or even count backwards from 20 to 1. If she had 10 cents, and spent 4 cents for candy, she believed that she would have 5 cents left. She expected 10 cents change when she bought 12 cents' worth of candy and gave the man 15 cents. She could write her last name, a word of three letters, but "Philomena" was too difficult for her.

In the Porteus Maze test she was very willing to cooperate but failed to understand the instructions for the 5-year test. She did pass the VI- and VII-year tests but the higher ones were too difficult for her, so that her Porteus Maze test age also was 6 years.

The cards of circumstance appear to have been stacked against Philomena. She had been abused from early childhood until she neither knew nor expected any different treatment. She was so dull that even long-continued training could not be adequate insurance against her going back to the same sort of life she had been living if once she were free to try to take care of herself. She was a girl for whom permanent supervision and care were absolutely necessary; she did not have sufficient intelligence to warrant even the slightest hope for her successful adjustment. For this reason she was committed to Waumano Home for the Feeble-minded where she will undoubtedly learn to be a very useful member of that special community and will be spared the miserable existence she was fairly launched upon.

The second is a remarkable case showing an almost complete lack of growth after eight years of age. The author emphasizes hereditary factors as of the greatest importance in this case, but these would not explain the patient's apparent normality during early childhood.

Case Number 5 (Adams, 1926) Grace N— is a striking case of potential feeble-mindedness. Her life history further illustrated the apparently hereditary persistence of undesirable behavior tendencies in spite of favorable environmental control.

Born of native American parentage in a little village in New Jersey

in September, 1903, Grace started life with a serious hereditary handicap. In presenting the history of this "pretty, attractive child," Goddard writes: "The mother is feeble-minded and of feeble-minded ancestry, but the father seems rather to be a degenerate and probably of a good family, as his ancestors, as far back as we can trace them, seem to be entirely normal." The father was immoral and brutal. He cursed and beat the mother during Grace's pregnancy and after Grace and a younger sister were born deserted the family.

While Grace was a mere child the mother seemed anxious to rid herself of the care and responsibility of her children and asked that Grace be admitted to The Training School. She claimed that the child lacked self-control, was obstreperous and seemed feeble-minded. The younger sister, who has lived with relatives and various families, is a moral delinquent. The father now lives with a third wife in a near-by community, and the mother keeps house for an unmarried man.

The mother's request was granted and Grace was admitted to The Training School at the age of 73 years. She was examined in the psychological laboratory and tested practically at age on various types of tests. Her social and educational reactions seemed normal. She was well-developed and presented a good appearance. These characteristics gave rise to some doubt whether Grace was really a mental defective and whether she should remain in an institution for defectives. Thus an apparently normal child with a record of social inadequacy became the object of institutional study and observation. This report presents the history of Grace's social and mental development during fifteen years of continuous residence at The Training School.

Grace is the older of two children. The pregnancy and birth are reported as normal. She has a history of some developmental retardation. Dentition was delayed until the end of the first year, and walking and talking began in the third year. She walked clumsily and spoke brokenly at 7 years. She was reported to have St. Vitus's Dance at 4 years and there was a twitching of the face at the time of her admission to The Training School. All other etiological and pathological history is negative or not reported.

When admitted she was a pretty, attractive child. She seemed to play normally and to enjoy the other children. The ability to dress and undress was only partly developed and she was inclined to "whine" and to invite undue attention. For the most part she was cheerful, active and affectionate. She was obedient and willing, but at times was stubborn and mischievous. Her health was good. Her physical measurements, except vital capacity, fell well within the range of normality.

She was placed in the kindergarten and gave promise of excellent progress. She did her work nicely. Her powers of observation, imitation, and attention were good. She knew the number concepts to 4 and could name and match the primary colors. She enjoyed music and the rhythmic games. Her learning was rapid, but constant drill was necessary for retention. Her conduct was good in the schoolroom and in the cottage.

At this time, aged 73 years, her Binet mental age was 63 years, I Q 86. On the Goddard form board her test age was 90 years. She showed a general backwardness in average development by being unable to give her age, distinguish right and left or tell the number of fingers on each hand.

Special care was taken that Grace have normal contacts both educationally and socially at The Training School. She lived in a cottage with little girls of her own mentality who, like her, were border-line children. She was neat and attractive and had a winning personality. Many of the officers of the School gave her personal attention. She was taken on visits to Philadelphia and other cities. She enjoyed special privileges and had many opportunities for normal social contacts. Later, the care of the supervisor's room was intrusted to her, and she got much pleasure from waiting on tables in the main dining room. She became proficient as a waitress and as a helper in all household duties. She enjoyed the better things of life, and showed many normal reactions as a result of all this special training.

During her early years she showed good school progress. She was active, obedient, and rather easily controlled. She learned quickly, but needed much drill in order to retain well. She was very fond of the smaller children and helped in washing, dressing and caring for them. But during these first years she showed practically no gains in general intelligence. With the advancing years she showed signs of arrested mental development. At the age of 81 years her Binet mental age was 70 years, I Q. 86 as on admission, but four years later at the age of 128 years she "tested" only 73, with an I Q of 57.

She began having difficulties during her pre-adolescent period. Her temperamental and general social reactions grew more and more typical of the mental deficient. She developed a jealous attitude toward the older girls and occasionally had pouting spells. At the same time she became untruthful, dishonest, and sly. It was hard to teach her anything, but after she had learned she did her work nicely. She made almost no progress in formal school work. She found great difficulty with the academic work, but got along well with household arts.

By the time Grace was fifteen years old she had become so untidy,

careless and irresponsible with other people's things that the care of the attendant's room was denied her. She accumulated "junk." Her temperament was variable. She liked to remodel her clothes and she did beautiful crochet and embroidery work. Her school record was now typical of feeble-mindedness. She read poorly from the second reader, recognized words very slowly and was unable to tell new words by sound. Her physical exercises showed apathy. The quality of her work varied. She could do good work, but was careless unless constantly supervised. At the age of 14.9 years her Binet mental age was 8.2 years, IQ 55. Her Porteus test score was 6.0 years, while on the Goddard form board her score averaged 11.0 years. She ranked zero percentile for girls of her age on all these mental tests. Her physical and psychophysical measurements were two years retarded for the average girl of her age.

During her adolescence she showed an increase in definitely feeble-minded characteristics. She advanced more slowly in school. At the age of 17 she worked one period a day for four weeks trying to learn a poem of five verses, and was never able to recite it twice the same way. In reading and spelling she did third-grade work. She learned to add without carrying, but was unable to understand the simplest problems requiring arithmetical reasoning. She learned to tell time, but had great difficulty in grasping the idea. Her sewing and loom work were good. She was willing, but showed little initiative and resourcefulness. At this time she showed signs of developing sexual consciousness, but not to an abnormal degree. Her conduct was good and she seldom gave any trouble, although she needed constant supervision. At 20 years of age her mental age was 8.7 years, an increase of 2.4 years over her ability at the time of admission thirteen years before. She was now diagnosed as definitely feeble-minded, of low moron level, stable and trainable.

From the time Grace was 20 up to the present she had been a serious sex problem. Because of her fondness for children she had been trained to be a pupil helper in the kindergarten class. In this class she needed constant supervision on account of being unable to resist "petting" the small boys to an undesirable extent. Some notes written by her to the older boys in the institution are most obscene. When questioned about such notes she takes it as a matter of course, and exhibits no remorse or shame. Because of such exaggerated sex interests she requires constant supervision at school, about the grounds, and in the cottage. From a sweet-natured, honest, truthful girl she has become one of the least trustworthy of the children. She is not trusted with the new girls

because of her bad influence. It has been necessary to relieve her of the care of and help with the smaller children. She shows great emotionality when in the presence of boys or men. She is deceitful and vulgar, in spite of her quiet, unassuming, nice-appearing manners. She dresses carefully, has nice clothes and likes to make a good impression. She is very susceptible to flattery and pours lavish praise upon any stranger who gives her attention. Those who do not know her weakness would have difficulty in understanding why she should remain in an institution for the rest of her life.

A study of Grace's mental growth as indicated by her reactions to the Binet tests is of special interest. From the time of her admission up to the present she has been "tested" 21 times by many different examiners. The consistency of the test results not only is an evidence of her arrested mental development and the mental stability of the feeble-minded, but also witnesses the remarkable reliability of the tests as a measure of mental ability. With wide differences in the personality and skill of the examiners, with ample opportunity for learning the tests from repeated examinations and from contact with higher-grade children, with constant intensive training at school, her performance is nevertheless remarkably consistent. The mental age scores from these examinations are given in Table XIV, which also shows the dates of the examinations and the corresponding life ages, I Q.'s and years of

TABLE XIV —M A ON SUCCESSIVE EXAMINATIONS

| Date | C A | M A | I Q | Retardation |
|----------|------|-----|-----|-------------|
| 1-13-11 | 7.3 | 6.3 | 86 | 1.0 |
| 7-12-11 | 7.8 | 6.2 | 79 | 1.6 |
| 10-27-11 | 8.1 | 7.0 | 86 | 1.1 |
| 1-1-12 | 8.3 | 7.0 | 84 | 1.3 |
| 3-6-12 | 8.5 | 7.1 | 84 | 1.4 |
| 7-22-12 | 8.7 | 7.0 | 80 | 1.7 |
| 4-28-13 | 9.6 | 6.3 | 66 | 3.3 |
| 6-30-13 | 9.7 | 7.2 | 74 | 2.5 |
| 8-4-13 | 9.9 | 7.2 | 73 | 2.7 |
| 7-17-14 | 10.8 | 7.2 | 67 | 3.6 |
| 2-10-15 | 11.4 | 7.2 | 63 | 4.2 |
| 1-25-16 | 12.3 | 7.2 | 59 | 5.1 |
| 7-26-16 | 12.8 | 7.3 | 57 | 5.5 |
| 1-26-17 | 13.3 | 8.2 | 62 | 5.1 |
| 7-28-17 | 13.8 | 7.3 | 53 | 6.5 |
| 8-14-17 | 13.9 | 8.2 | 59 | 5.7 |
| 7-26-18 | 14.8 | 8.0 | 54 | 6.8 |
| 8-8-18 | 14.9 | 8.2 | 55 | 6.7 |
| 11-2-23 | 20.2 | 8.7 | 54 | |
| 11-10-24 | 21.2 | 9.0 | 56 | |
| 3-24-26 | 22.5 | 8.7 | 54 | |

retardation. The Goddard-Binet was used until 1918, the Stanford-Binet thereafter.

As a kindergarten helper she showed little or no judgment, insight, originality or resourcefulness, and yet she loved children, was willing and did her work well, after it had been planned. One day she was asked to select a game and teach it to the class. She evidently confused several games. She put colored balls in a box and then blindfolded a child and asked him to tell her the color of the ball she removed from the box. She played this game for twenty minutes and was unable to see the absurdity. In all her school and cottage life she has been unable to plan, but follows well. For several years she has been an excellent waitress here, but at times she is very irritable and complains about being overworked. On the whole, however, she is well contented, and seems to be quite happy. From a social standpoint she typifies incompetence, and daily demonstrates her inability to get along in the outside world. She is still unable to do more than second- or third-grade school work, and her general mental ability is still between 8 and 9 years.

SPECIAL TYPES

In a fairly small percentage of feeble-mindedness diagnosis is facilitated by certain physical signs. These signs occur in *syndromes*, making possible a division into clinical types which, in spite of their relatively small number, are of great interest and importance. Such clinical types may be grouped into three classes: Mongolism, endocrinopathies, and neurological conditions. We shall briefly describe these types, although problems of diagnosis here tend to be more medical than psychological.

MONGOLISM

This interesting, but baffling, condition was named and first described by Langdon-Down (1866), although it was undoubtedly known many years earlier. The name was given because of a supposed resemblance to Orientals, mainly because of the almond-shaped eyes. Langdon-Down attempted a rather elaborate ethnic classification of idiots which, through lack of evidence, has lost whatever importance it might have had, although very recently Crookshank (1931) has stressed the origin of these peculiar individuals from Oriental ancestors. The attention paid to this condition appears out of proportion to the frequency of occurrence. Penrose (1934) has shown from his own and Van der Scheer's (1927) figures that the crude incidence in the total

population is of the order of 1 in 10,000. After correction for the high mortality rate and other factors, the number per live births is probably about 1 in 1000.

The description and enumeration of the physical conditions of Mongolians have engaged the attention of many writers. A large number of symptomatic signs have been listed in one place or another, but they are not of equal diagnostic significance. For more elaborate descriptions of the condition, the reader is referred to Brousseau and Brainerd (1928), who have published a monographic treatise on the condition. A brief description is given by Penrose (1934), who acknowledges his chief source to be the excellent account given by Stewart (1926). Kuenzel (1929) summarizes the characteristics thus. "As a *differential* condition the typical Mongolian is best described as having almond-shaped eyes, set in shallow and widely separated eye-sockets, with epicanthic folds and puffy eyelids. His bright red tongue is unusually long, thick and broad, pointed at the end when protruded; with many deep transverse fissures, and usually protrudes from the mouth. His lips are thick and transversely fissured, the corners of the mouth are drooped and the lower jaw is thrust forward. He has a depressed nasal bridge, flattened occiput, small ears, hypotonic muscles, hyperflexible joints, and when asked to be seated he sits tailor fashion. The hands of the Mongolian are dry and chapped, his voice is coarse, and his gait is described as shambling." This condensed summary does not do violence to any of the other descriptions and it serves adequately in the present place. The condition is so similar in all cases that, as Penrose says, "to see and examine one is to obtain a very good idea of the characteristics of the type."

Penrose (1934) and Kuenzel (1929) have both presented data in relation to significant signs. Table XV has been elaborated from Penrose. In the upper half are listed seven characteristics, with the percentage frequency of occurrence in a group of 50 Mongols and 350 non-Mongolian but otherwise unselected institution cases. These data show that an I Q. between 15 and 29 (imbecile) and a cephalic index 83 or greater are about three times as frequent in Mongolians as in non-Mongolian feeble. The other signs are considerably more frequent. The lower half of the table is read thus: 2 per cent of the Mongolians and 53.7 per cent of the non-Mongolian group had none of the seven characters, while 8 per cent of the former and none of the latter group had five of the seven characters. In the last two lines it is

TABLE XV —DIAGNOSTIC SIGNS OF MONGOLISM

| Trait Name | Mongols (A) | Non-Mongols (B) | $\frac{A}{B}$ |
|------------------------------------|----------------|--------------------|---------------|
| Number of cases | 50 | 350 | |
| | Per Cent | Per Cent | |
| ✓ I.Q. between 15 and 29 | 70 | 25.8 | 2.7 |
| ✓ Cephalic index 83 + | 44 | 17.4 | 2.5 |
| ✓ Epicanthic fold | 52 | 3.4 | 15.3 |
| ✓ Fissured tongue. | 74 | 7.4 | 10.3 |
| ✓ Conjunctivitis | 30 | 1.4 | 21.4 |
| ✓ Transverse palmar line | 44 | 3.8 | 11.6 |
| ✓ Only one crease on minimal digit | 18 | 2 | 90.0 |
| Number of Traits | | | |
| 0 | 2 | 53.7 | |
| 1 | 4 | 35.4 | |
| 2 | 20 | 9.1 | |
| 3 | 30 | 1.4 | |
| 4 | 28 | 0.3 | |
| 5 | 8 | 0.0 | |
| 6 | 8 | 0.0 | |
| 7 | 0 | 0.0 | |
| 0-2 | 26 | 98.5 | |
| 3-7 | 74 | 1.5 | |

shown that while 98.5 per cent of the non-Mongolian group exhibited not more than two of the traits, only 26 per cent of the Mongolian were so limited. Combinations of three to six of the seven traits occurred in 74 per cent of the Mongolian and in only 1.5 per cent of the non-Mongolian. Thus, a complex of several traits is nearly 50 times as frequent among Mongolians.

A similar but less extensive study was published by Kuenzel (1929), who scored the members of 31 matched (for C.A., M.A., and I.Q.) Mongolian-non-Mongolian pairs on some 90 traits supposedly characteristic of the condition. The thirty most important traits arranged in order of their value in differentiating were as follows:

| | |
|--------------------------|-----------------|
| Almond-shaped eyes ✓ | Thick lips ✓ |
| Flattened occiput ✓ | Epicanthus ✓ |
| Depressed nasal bridge ✓ | Puffy eyelids ✓ |
| Pointed tongue ✓ | Thick tongue ✓ |
| Unusually long tongue ✓ | Broad tongue ✓ |
| Deeply fissured tongue ✓ | Coarse tongue ✓ |

| | |
|---------------------------------|----------------------------|
| Somewhat depressed nasal bridge | Small ears |
| Transversely fissured tongue | Transversely fissured lips |
| Hyperflexible joints | Hypotonic muscles |
| Assumes tailor's posture | Drooped corners of mouth |
| Shallow eye-socket | Lower jaw thrust forward |
| Very wide distance between eyes | Fissured tongue |
| Chapped hands | Bright red tongue |
| Dry skin | Protruding tongue |
| Many fissures in tongue | Shambling gait |

Only the first seven characters in this list did not occur at all in the control group

Penrose's choice of an I.Q. between 15 and 29 as an important criterion is supported by other findings relative to the mental ability of these persons. Over half of Kuenzel's group of 31 cases were imbeciles, the highest M.A. being 79 years; and nine of the subjects had mental ages of one or two years. Brousseau and Brainerd (1928), in classifying 206 Mongols, found 38 per cent idiots, 61 per cent imbeciles and 1 per cent morons.

The cause of this condition is essentially unknown. Glandular dysfunction, exhaustion of fertility of the mother, heredity, Oriental ancestors, frequent pregnancies, and other causes have all been suggested as significant. Because careful examination shows about 1 in 50 sibships with more than one member affected; because parents, who are themselves not Mongolian, sometimes show some of the signs, and because the condition does occur in twins, it is possible that a genetic factor may be involved. Russell (1933) described a case of female biovular twins, both of whom were Mongolians, and reports finding eight other cases in the literature. Herrman (1917) tentatively concluded that "the evidence that Mongolian imbecility is a unit character and recessive, although not conclusive, is certainly suggestive." The question of a genetic factor has, however, not been sufficiently investigated.

The first part of the evidence points to glandular dysfunction. The former view, that the condition is due to exhaustion of fertility of the mother, is supported by the recent reports of Mateer (1935) appear to contribute much to this view. Mateer found that the administration of pituitary extract to certain selected cases, together with specialized training, resulted in definite improvement in test performance.

Exhaustion of fertility accompanying advanced age of the mother as a cause has strong support. Van der Scheer (1927) showed that the

mother's average age at the birth of Mongolian children was significantly higher than of mothers in general. Similarly, Penrose (1934) found that the average age of mothers at the birth of 154 Mongolians was 37.2 years, while the average age of the same mothers at the birth of non-Mongolian siblings was 31.2 years. This difference of 6.0 years has a standard error of only 0.6 and so is of undoubted significance. Penrose also shows that the age of the father and the order of birth in the family are of little or no importance.

After examination of even one case of Mongolism, diagnosis is not difficult. Mild or atypical cases may present difficulties, but a judgment can usually be made by determination of the presence or absence of the crucial signs suggested above. The flattened bridge of the nose which is common to some cases of Mongolism and to some of congenital syphilis may be confusing at times, but the presence of other clinical signs should establish a diagnosis. Cretinism, especially in younger children, may sometimes be confused, but probably not by experienced examiners.

The treatment of Mongolism as a pathological condition is entirely medical. Glandular therapy has been tried, but the results of different observers are conflicting. Mateer (1935) reports the most encouraging results from polyglandular therapy. Seven of a series of 34 consecutive cases of Mongolism improved in test performance after such therapy to such an extent that they were raised above the level of feeble-mindedness. Four of these children had I.Q.'s over 90, and the other three were 78 or more. One case is reported to have increased his I.Q. from 28 at two years of age to 106 at six years. No details of the case are given. This work of Mateer's, while inadequately reported, is extremely suggestive. Psychological or educational management is the same as for any feeble-minded child.

ENDOCRINOPATHIES

Cretinism.—The most frequent specific endocrinopathy associated with mental deficiency is hypothyroidism. Children with such a condition, or adults who have exhibited the condition from early childhood, are called cretins. About three to five per cent of institution inmates show some hypothyroidism.

These children are characterized by an evident physical dwarfing. The body is thick-set, legs short; extremities—feet, and hands—are short and stubby; they are often cold and may be cyanotic. The skin

is dry and thickened and gives the appearance of being too large for the individual's body. There is little perspiration. Subcutaneous fat is abundant. The hair is scant, dry and brittle. The tongue and lips are thickened; the teeth, which appear late, are peg-shaped and chalky, and exhibit early decay. The abdomen is protuberant and umbilical hernia is common. They exhibit a normal temperature. Sex development is retarded and they seldom mature sexually. The course of the abnormal condition is slow. Many extreme cases die at an early age; milder cases may live to be adults. Early deaths are usually immediately due to complicating factors rather than to the hypothyroidism itself. The mental ability may range as high as dull normal. There appears to be a fairly close correspondence between the degree of physical and mental defect.

Hypothyroidism is definitely known to be the cause of cretinism. However, it may be possible that hereditary factors may predispose certain individuals. Emerson (1935) insists that a distinction must be made between true cretinism and infantile myxedema. The former occurs only in so-called goiterous regions and is due to a thyroid deficiency in both the pregnant mother and the child. Goiterous regions are those areas of the world, such as the Swiss Alps, and the Great Lakes region in America, where there is apparently a deficiency of iodine intake, and this element is an important constituent of thyroxin, the chemical principle of the thyroid hormone. Infantile myxedema is a condition of children of parents with normal thyroid glands, but it is due to a pathologic condition of the child's thyroid. Therefore *in utero*, at birth, and while nursing from the mother's breast these children may show no untoward symptoms. But when they can no longer depend upon thyroxin from the mother, typical symptoms appear.

As earlier mentioned, these cases are sometimes confused with Mongolians, but the syndromes are quite distinct. One important differential is the cephalic index, which is usually high in Mongolians but normal or low in cretins. In doubtful cases, the establishment of a definite diagnosis is a purely medical problem.

Treatment by the administration of thyroid is common, but must of course be carried on under medical supervision. Such therapy often shows definite physical improvement, but behavioral improvement is rare. One case which has been followed during several years, illustrates this.

Case Number 6 (I. U. Clinic, I-3023). Mary R. was first examined at the age of seven years and two months in 1931. At this time the mother reported she had not walked until almost three years of age, that she had said words at 18 months and sentences at two years, but "no one except the family could understand her." At the time of examination the girl was repeating the 1B grade. The school authorities complained that she was troublesome because she was not able to do the school work and would interfere with the other children by wandering aimlessly about the room. At home she was not very active and played at about the level of a three-year-old. Her Binet performance at this time gave her an M.A. of three years and eight months and an I.Q. of 51. The first trial on the Witmer form board was 163 seconds, which was the zero percentile for her age and was below the median for the first half of the 4th year. She had been placed on thyroid therapy one month preceding the examination. This therapy was consistently followed during the next year. On a second examination exactly one year later, her Binet age was four years and four months, with an I.Q. of 53. Her work and attitude in school had greatly improved and she had been promoted to the 1A grade. At home her mother had found it possible to intrust her with small errands. On the Witmer form board her first trial had decreased to 55 seconds, which is the 15th percentile for her age. For the first time she was given the Porteus Maze test on which she had a five-year, six-month performance, with an I.Q. of 67. Following a second year of therapy she was examined in 1933. At this time her Binet performance was four years and six months, with an I.Q. of 55. Her school performance has consistently improved, and she exhibits initiative in many activities. Later examinations have shown a test performance represented by an I.Q. around 50 but the mother reports a very definite improvement in her physical condition and in her everyday behavior.

Other Glandular Conditions—Hypothyroidism is the most frequent glandular dysfunction associated with mental deficiency. There is no reason, of course, why any other endocrine disorders found in mentally normal subjects may not also occur in the feeble-minded. However, no such disorder has yet been demonstrated to be of important etiologic significance.

Pituitary disorders, especially *dystrophia-adiposogenitalis*, or Fröhlich's syndrome, are not infrequently found. Occasionally gigantism is noticed. Mateci's (1934) report suggests a possible pituitary involvement in some cases of Mongolism, and in a later report (1935) she

calls attention to the possibility of polyglandular disturbances reducing efficiency.

NEUROLOGICAL GROUP

Several neuropathological conditions are associated with amentia, probably in a causal relationship. Four of these are of particular significance here because they represent rather well-defined syndromes that recur with some frequency in clinical work with the feeble-minded.

Hydrocephalus.—The most evident sign of this condition is the enlarged cranium, the circumference of which is not uncommonly 55 to 70 centimeters. The head may be normal size at birth and a few days to months later exhibit a rapid growth in all directions. The enlargement is limited to the cranium, hence the parietal or frontal regions may be extremely prominent, while the relatively non-changing size of the face makes it appear small and triangular in shape. At even advanced ages, sutures between the skull bones may be open and the fontanels large and sometimes bulging.

Hydrocephalus is due to an accumulation of cerebrospinal fluid because of congenital or post-natal pathological conditions leading to (1) excess, (2) obstruction in the path of circulation, or (3) insufficient absorption. There is little clinical evidence that the first of these is a very important cause of hydrocephalus. The second is the most common cause of internal hydrocephalus, and the third, of the external form. Of these two last types, probably internal hydrocephalus is the one most frequently associated with mental deficiency.

After formation in the lateral ventricles, the cerebrospinal fluid passes to the third ventricle through the foramen of Monroe and thence to the fourth ventricle via the Sylvian aqueduct. From the fourth ventricle it escapes through the foramina of Magendie and Luschka in the inferior (anterior) medullary velum into the subarachnoid space which is here expanded into the cisterna magna. It then descends into the spinal subarachnoid space and ascends in the subarachnoid space about the base of the brain and the cerebral hemispheres, here following the deeper channels over the main cerebral sulci. Obstruction of this circulation may be caused by tumor growths, by foreign tissue formed following meningeal inflammation, or by congenital malformation of the various areas involved. The obstruction

may occur at any of the foramina mentioned, i.e., at the foramen of *Monroe*, resulting in distention of one or both lateral ventricles; in the aqueduct of *Sylvius*, causing distention of the lateral and third ventri-

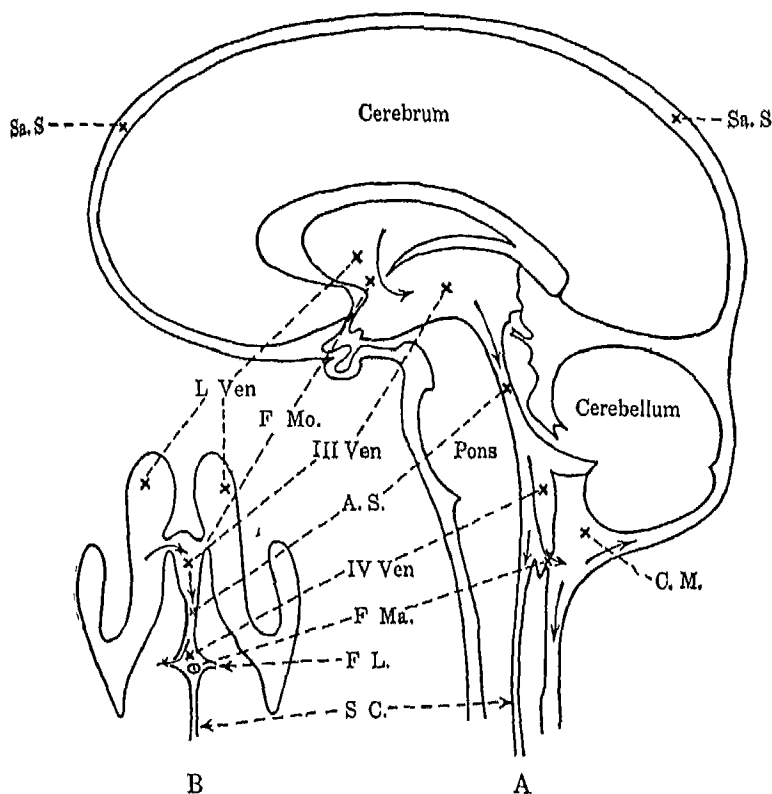


Figure 9.—Diagram of the Circulation of the Cerebrospinal Fluid. L. Ven, lateral ventricles; F. Mo, foramen of Monroe; III Ven, third ventricle; A. S, aqueduct of Sylvius; IV Ven., fourth ventricle; F. Ma, foramen of Magendie; F. L, foramina of Luschka, S. C, spinal canal; C. M, cisterna magna; Sa. S, subarachnoid space. A is a sagittal section redrawn from Rasmussen (1932), and B is a diagram of the ventricular system redrawn from Dandy and Blackfan (1917).

cles; in the fourth ventricle; in the foramina of Magendie and Luschka. Finally, obstruction may occur in the subarachnoid space, especially at the level of the tentorium cerebelli above which level about four-fifths of the absorption probably takes place.

The mental ability of these patients apparently has some relation to

the degree of hydrocephalus present. It may range from idiot to normal. However, the external appearance is not always a good indication of the degree of defect. A boy of 11 years and 3 months, examined in the Indiana University Psychological Clinic, had a head circumference of 78 centimeters which the mother said had not changed in size since the boy was five years old. His Binet performance gave him an M.A. of 8 years 10 months and an I.Q. of 78.

Medical diagnosis to determine the type and degree of hydrocephalus is essentially neurologic and does not concern us here. Treatment for the pathologic condition has been attempted by surgical interference, directed toward reestablishing ventricular circulation. This has been of doubtful success. The prognosis is unfavorable, with some very mild cases showing recovery, some cases showing no change after a certain point, and severe cases dying in infancy.

Microcephalus and Macrocephalus—These conditions have in common a congenital malformation of the skull and mental deficiency. Microcephalus is sometimes used to characterize any small-headed person, but technically should be restricted to a particular pathologic condition. Chief among the signs of this condition is a cephalic index averaging about .75; hence the head is long and narrow, the length more nearly approaching normal than the height or width. The skull is rarely over 17 inches in greatest circumference, and the brain is extremely small, with a simple pattern of cortical convolutions. The condition occurs in not more than one per cent of institutional patients. The cause is unknown, but the effect of irradiation, mentioned earlier (cf. Table XII), is suggestive. Mental ability is seldom above the imbecile level.

Macrocephaly is an enlargement of the skull which is therefore distinguishable from hydrocephalus. The corresponding increase in brain size as the increase is in supporting structures and not nervous elements.

Birth Injury—The recent experimental work at Vineland reported by Doll, Phelps and Melcher (1932) introduces a new phase of interest in this group of neurologic conditions associated with amentia. While birth injuries have long been thought of as possible causes of mental deficiencies, there appears to have been a comparatively small amount of inquiry into possible relationships.

According to Melcher (1929), the physical characteristics of children so injured may include "spastic paralysis, athetosis, choreic movements,

speech defects, and perhaps hydrocephalus and secondary epilepsy." The frequency of some degree of mental defect is probably high, although adequate data are not available. Smith (1926) reports 75 per cent of a group of 50 cases of cerebral accidents in childhood to be mentally defective. Doll (1933) reports that, at the Spaulding School in Chicago, "in a miscellaneous group of 150 cases of infantile palsy in children of school age most of which are presumably due to birth lesions, one-third are rated as mentally subnormal and two-thirds as mentally normal." The converse figures, that is, the percentage of birth injury cases among feeble-minded, are much lower. Larsen (1931) classified about eight per cent of his cases as birth-injured; and Doll, *et al.* (1932), say that from six to ten per cent of their mentally deficient subjects were found to be birth-injured.

Of the possible injuries to the nervous system occurring during labor, the intracranial ones are of greatest importance in the etiology of amentia. Such injuries, chiefly hemorrhagic in nature, may involve cortical or sub-cortical areas and may affect either the pyramidal (motor) or non-pyramidal systems. The type of motor or other disturbance evident is of course related to the region and type of hemorrhage. Other brain conditions may be important in mental deficiency, such as infections or neoplasms, although these are not related to birth trauma.

Diagnosis aimed at discovering the nature and extent of the lesion, and whether it occurred at birth, is entirely medical and cannot be gone into here. Doll (1933) suggests six fields of inquiry necessary for a complete psychological diagnosis: (1) clinical status, (2) birth and pre-natal history, (3) neo-natal history, (4) ontogenetic history, (5) history of pathology other than that associated with birth lesions, and (6) heredity. The important neo-natal evidences of intracranial injury summarized from Tiedgold (1929), Ford, *et al.* (1927), and Ehlenfest (1926) are asphyxia, especially of the pallid type; difficulty in inducing respiration, which may then be slow and irregular; feeble pulse; child usually sluggish and unresponsive and does not cry, although widespread injury may be indicated by restlessness and incessant crying; disinclination or refusal to nurse, convulsions, with rigidity and even opisthotonus; fontanel may be tense and bulge, especially in extreme cases; spinal fluid, on lumbar puncture, is bloody and shows increased pressure; evidence of paralysis.

The psychometric examination of these children is difficult and apt

to be misleading. Their motor and speech handicaps make it impossible for them to show adequate responsiveness and this may mask a real ability. Doll, *et al.* (1932), found that the Binet and the Myers Mental Measure were the most useful tests with their cases. The Porteus Maze was satisfactory, but form boards were not. In any case it is suggested that allowances must be made in interpretation.

Treatment by physiotherapy aimed at muscle training was tried with some of the Vineland group but was not continued long enough to give clear-cut evidence of its value. The motor disability of these cases makes the problem of vocational training quite different from that of physically normal children.

Other Neurological Conditions—It would seem only reasonable that if congenital or natal injury or infection of the nervous system, especially of the cerebrum, results in mental deficiency, similar conditions at an older age might have similar effects. There is evidence that this is true. Congenital syphilis, with or without juvenile paresis, may have an etiologic relation to amentia in some cases (see page 105). Cerebrospinal meningitis, encephalitis, and other neural infections may have a similar relationship.

A great deal of interest has been shown in the mental sequelae of encephalitis lethargica. We shall consider these at greater length in another section of this book, but we may here point out the possible relation to feeble-mindedness. From a summary of the literature, Hetherington (1933) says, "Children under three who have suffered from the disease have not been known to attain normal mental development afterward." While she says further that character changes are more frequently found as sequelae in older children, there is evidence that mental defects may occur. Dawson and Conn (1926, 1931) found that 53 post-encephalitis cases had an average I.Q. of 83.9 ± 1.2 , while 1020 unselected patients in the same hospital had an average I.Q. of 90.27 ± 0.31 . The difference between these averages is 4.1 times its probable error and is therefore significant.

In cases of encephalitis, especially in school children, there is usually some evidence in test results or school achievement by which one can indicate the presence of mental deterioration. This is not true if the cerebral inflammation or injury has occurred in early infancy, and it is therefore difficult to be sure that the amentia predated or postdated the acute febrile attack. In any case, the evidence that such neurological

conditions may be significant etiologic factors in amentia requires that disease history in early life should be secured for every case.

MANAGEMENT

In dealing with the mentally defective—and every clinical psychologist, whether or not he is officially connected with an institution, is constantly having to do so—it is not enough to diagnose and label. The psychologist must be ready to make recommendations for care and training, and he is often expected to attempt a prognosis. To be able to do these things, he must be familiar with, although not an expert in, special education, institutions, vocational opportunities, and methods of social control of the subnormal. In this book we can present only the more general features of the various questions of management, we refer the reader to more technical discussions for details.

Most usually the psychoclinician must make his recommendations and prognoses to parents or other relatives; on occasion, to professional workers in other fields, such as teachers, social workers, physicians, ministers, or lawyers. It must be made perfectly clear to the persons concerned, if they do not already know it, that we know of no method for curing feeble-mindedness, i.e., of making the patient normal. It is sometimes very difficult, even impossible, to make parents believe the truth of this. One family brought their nine-year-old idiot son to the James Whitcomb Riley Hospital Neurological Clinic, after having taken him to at least a dozen physicians. Each of these men had told the family just what the neuropsychiatrist did, that medical science or art had nothing to offer in the way of curing this boy. In spite of careful explanation of the boy's probable neuropathology in terms the parents could understand, the father's only answer was, "If you can do nothing for us we are going to take him to Dr. ——— in St. Louis." With such stupid refusal to face the facts, little can be done. As soon, however, as parents recognize that the feeble-minded child cannot be made normal, but that he can be greatly helped to live a happier and more useful life, then reasonable plans for their guidance can be formulated.

We have already mentioned that medical and surgical therapeutic procedures have been tried on certain pathological types of feeble-mindedness with little or no success. Glandular therapy, especially with hypothyroid conditions, has beneficial results in improving gen-

eral physical condition, but there is little evidence that the mental condition is similarly improved. Surgical interference has been of no avail in microcephalus, and only rarely have there been desired results in hydrocephalus. Of course, this does not mean that medical attention should not be given to the feeble-minded. Good health, good physical condition, good physical hygiene are as important for these people as for any other group. But there is no evidence that such medical attention does anything to improve the mental condition. Physiotherapy, as shown by Doll, *et al* (1932), is an important aspect of treatment in the birth-injured, paralytic feeble-minded, but here again there is no claim that such exercise results in any significant improvement in mental ability.

Psychoanalytic psychiatrists have turned their attention to therapy with the feeble-minded. While these workers do not deny that a lack of intelligence is fundamental to feeble-mindedness, they believe that in some cases, maybe in all, part of the difficulty is due to emotional blocking of the abilities possessed. As Clark (1933) says, "The general distribution of libido is such as to restrict the dynamic forces available for intellectual use." On this theory, workers, notably Dr. L. P. Clark of the Psychoanalytic Sanatorium at Rye, N. Y., and Dr. Menninger at the Southard School at Topeka, Kansas, have tried an active therapy of a psychoanalytic nature aimed at releasing emotional blockings in the feeble-minded. There is no claim that improvement in intelligence follows such treatment, but the reports of the work do indicate that the general behavior of some children does improve.

The possibility of aid to the feeble-minded in making their life happier and more useful lies in training, and in this alone. It seems safe to say that a large share of the social problems of the mentally defective—delinquency, dependency, immorality, crime, and all the rest of a long list of socially pathological conditions—may be accounted for by the difficulty in, and the lack of, suitable training for them. The feeble-minded are not all criminals, or all dependent, or all immoral. The same reasons that may be found to account for social pathology in any group are found among mental defectives. But, in addition, the ament lacks foresight to see the consequences of his acts. He is suggestible and readily follows a leader, and all too often the circumstances of his existence scarcely offer a desirable model. Evidence is available in great quantity to prove that these

mentally inferior people may play useful parts in the scheme of things—but in most cases they do so only with training and supervision

Obviously, the training of the feeble-minded child, as well as of the normal child, must begin in the home. Therefore, one important task of the clinical psychologist is to help parents to help their children. This can be done, of course, only if the parents are themselves capable and willing. When they are capable but unwilling, or incapable but willing, or neither, then society must take the initiative in training the child. When the parents are both willing and reasonably capable of helping the child, there are certain things which they must clearly understand. We may list several of these

1 The performance ability of the mentally retarded child is growing in much the same fashion as the normal child's, but at a slower rate. The rate of growth, as well as the level reached at any particular time, is roughly indicated by the IQ

2 Within limits, the establishment of desirable habits is possible. The six-year-old with an IQ of 50 can hardly be expected to be, or do, all the things that a normal six-year-old is or does, but he can be expected to do those things usual for a three- or four-year-old.

3 The establishment of such habits of behavior as elimination control, talking, feeding, dressing, politeness, cleanliness, etc., is quite possible—and necessary. But they cannot be established at as early an age as with normal children. Further, one can expect that they will take longer to establish.

4. Children of very low-grade ability (e.g., IQ's below 40) will probably never be completely independent of the parents or some other persons. Therefore, provision for their future must be made

5 In homes where one child is defective and other children are normal, the defective child must have only his share of the parents' attention, but he must not be denied that. Oversolicitude for, or rejection of, the defective child is as undesirable as similar attitudes toward normal children

6 There is, or rather should be, no stigma attached to inferior mental ability. Therefore, any available assistance should be accepted for the child.

7 Specifically, number 6 means that special educational regimes, either in the public school or in private or state institutional schools, should be taken advantage of

8. It must always be kept in mind that the best welfare of the child is being sought. Therefore, questions of expediency, comfort, or family pride must be secondary.

The psychologist and the teacher can be of great help to the parents in advising and planning specific training procedures. However, no amount of help will be of avail if the parents expect too much or too little from the child. The clinical psychologist must take it as one of his tasks to follow closely a child's progress and to be ready with aid, so that the child may make the best use of his possibilities.

After the age of six, society insists on more formal education than that usually provided for by the home. This is reflected in the free public schools and the compulsory attendance laws. Such compulsory education laws make little or no exception for the subnormal. Therefore, we must assume that the schools have as much responsibility for the training of subnormals as they have for normals. At first, the schools undertook the responsibility by trying to teach the subnormal child in the regular classroom. The difficulties in trying to do this were early recognized, and the first special class for subnormals was organized in Providence in 1896. Within the next five years classes were started in Springfield, Chicago, Boston, New York and Philadelphia. Since that time many classes have been started, but today they are not to be found in even half of the city school systems. Table XVI shows the prevalence of classes for subnormals in 1932 according to the data of Foster, Isdell, *et al* (1933). Evidently there are many communities which do not have special class facilities for these groups of children. Where this is true, of course, the psychologist cannot recommend special class attendance. The enrollment in the classes reported was 75,099, with an additional 13,786 in state and private residential schools, making a total of 88,885 subnormals.

TABLE XVI — DISTRIBUTION OF SPECIAL CLASSES FOR SUBNORMALS

| Population Group | Cities, 1930 Census | Cities Reporting | Cities with Special Classes |
|------------------|------------------------|---------------------|--------------------------------|
| 100,000 and more | 93 | 482 | 70 |
| 30,000-99,999 | 221 | | 131 |
| 10,000-29,999 | 667 | | 165 |
| 2,500-9,999 | 2183 | 797 | 117 |

having the advantage of special educational facilities. According to the 1926-1928 Biennial Survey of Education of the U. S. Office of Education (1930), there were slightly over twenty-three and a half million children in the schools of the United States. If one accepts two per cent of these as being sufficiently defective to require special educational facilities, there are some 470,000 such children. It is evident from the figures quoted above that only about 21 per cent of these children are being cared for in special classes or residential schools.

The aims of special education for subnormal children are essentially the same as the aims of any education, but with slightly different emphasis in the direction of preparing for a more circumscribed socio-economic life. Specifically, the aims of education for the subnormal may be stated as follows (cf. Ingram, 1935):

1. *Health.*—Adequate habits of good physical hygiene should be formed. As with the formation of all habits in the feeble-minded, this must be done specifically. Generalities on the need for cleanliness, care of teeth, avoidance of infection, etc., will not be sufficient. The mentally deficient child must be taught to brush his teeth, wash his hands and face, and so on, each as a special habit.

2. *Tool Subjects.*—Reading, writing and arithmetic should be taught, of course, but the child's limitations must determine how extensively. Simple counting, number recognition, making change, and similar processes in arithmetic; ability to read signs and newspapers; writing his name should be a basic minimum in all cases. Instruction should be directed toward teaching the subnormal child something concerning his relations to social institutions. He may be taught some conception of the part he may play in political, religious, industrial, recreational, or other aspects of community life. More immediately, such social training may concern itself with his place in the family group and the contribution he may make to it.

4. *Personality and Character.*—It is as important for the subnormal child to have a stable, well-integrated personality as for the normal child. Perhaps it is even more necessary with this group to teach social qualities such as honesty, industriousness, and

5. *Leisure.*—Perhaps one of the most difficult problems of all education is training in wise use of leisure. For the subnormal many leisure-time activities are impossible. Therefore, it is all the more necessary to devote attention to this problem in the education of the

mentally deficient. Music, athletics, handicrafts, group games and other types of non-intellectual activities offer an extensive field of exploitation for the subnormal. It is quite probable that lack of socially acceptable means of occupying leisure time is the indirect cause of delinquency among the feeble-minded.

6. Vocation—Occupations open to the subnormal are limited (see Table XIX), and most of them require manual, concrete activity. Therefore, the schools should emphasize pre-vocational work in developing manual skills. The use and care of tools in carpentry, masonry, electricity, and mechanics, form the basis of more advanced training in a specific trade. While all of the preceding aims are important, this one, which is related to the mental defective's whole economic adjustment, is probably most important.

An excellent generalization of the aim of special subnormal education has been made by Dr. C. S. Berry (1926), who says, "Since about 20 per cent of the adult population are engaged in unskilled labor the folly of attempting to prepare children of the most inferior intelligence for skilled labor or for electrical work is self-evident. The aim of the teacher, after a thorough trial in the special class has demonstrated the impossibility of the pupil's ever successfully doing regular grade work, should be to prepare him to become a law-abiding, self-supporting citizen in the simplest occupations."

The clinical psychologist's recommendation for special class work must be guided by several factors. In the first place, there must be special class facilities available. Where there are none, the regular classroom teacher may be able to help the subnormal if she is aware of the child's limitations, and what they mean in connection with academic achievement. Secondly, the ability levels accepted in the special class will influence recommendations. I.Q.'s from 70 to 80 constitute the upper limit, and about 50 the lower limit, for most classes. Children within these limits whose school achievement or placement is low, should be placed in special classes, at least for trial periods. Sometimes children with I.Q.'s below 50 are able to profit somewhat by work in the special class. Beyond the upper limit, children with I.Q.'s in the 80's and 90's may occasionally be sent to special classes for a limited period in order to bring specific academic achievement up to a satisfactory grade level.

Frequently, neither the home or the school is entirely satisfactory in training feeble-minded children. Extremely low I.Q., inadequate

home conditions, and established socially undesirable habits, are three of the reasons. In such cases, training may best be carried on in a residential school or institution. As reasons for institutionalization are more social than educational, we shall discuss them in the next section.

SOCIAL CONTROL

The most serious problems presented by the feeble-minded are their social maladjustments. This has long been recognized, and much energy has been devoted to the study of such problems. From these studies it has been concluded that all of the feeble-minded are potentially criminal, immoral, delinquent, or in general socially pathological. While this is no doubt true, it is also true that every individual is potentially anti-social. The basic difference is not in intelligence, but in the ament's lack of recognition of responsibility for, or consequences of, his acts.

This conclusion, that the feeble-minded were all potentially anti-social, was followed by attempts to discover means by which society could protect itself from the insidious influence of its less fortunate members. Chains, bars, floggings, and later a more humane three meals and a place to sit around, were long the best solutions that society could offer. Even today many institutions offer little more than this last. There is, however, a growing realization that many of the evils once attributed to low intelligence, *per se*, are really due to inadequate training of those with low intelligence. This statement is perhaps difficult to prove because emphasis on training in social adaptability is relatively new, and therefore there are few data available. But the contrast evident in the next two sections—the first indicating the socially undesirable aspects of the behavior of the feeble-minded, and the second illustrating socially desirable possibilities—does indicate that a start has been made in the direction of realizing the social values as well as the social liabilities of the feeble-minded.

Social Maladjustments.—Studies such as those of the Jukes, the Kallikaks, the Nams, the Hill Folk and other socially degenerate families and communities show the possible close association of feeble-mindedness and anti-social or asocial behavior. Louttit and Frith's (1934) study of the Dorbets illustrates social dependency without criminal tendencies in a feeble-minded couple who have traveled widely. Figure 10 from Hodder (1918) is an excellent illus-

tration of the social incapacity of one feeble-minded woman. After thirty years, the state was still spending money in having this woman tried in court and sent to institutions, only to have her released. While it is much more extreme, her history is similar to that of the Dorbets, and shows the same involvement with public agencies as a result of inability to assume responsibility for her acts.

The frequency of feeble-mindedness among juvenile delinquents is much higher than in the general population. Data from Pintner's (1931) summary of published surveys have been quoted earlier. When the proportion of feeble-minded in the total population of all of the reports is calculated, it amounts to about 26 per cent. Dependent children also show a high incidence of feeble-mindedness. Pintner also lists studies on dependent children from which an average incidence of 16.7 per cent may be calculated.

The following cases illustrate typical problems of the defective delinquent. In the first account, that of an inveterate criminal of moron ability, it is interesting to note the absurd reason given for killing, and the almost childish spontaneity in confessing the crime after two years. This one criminal act of a feeble-minded man cost the county many thousands of dollars which would have been avoided if his mental condition had been considered, in at least one of his many trials, and if he had been committed to an institution for the feeble-minded.

Case Number 7 (Thacher, 1917). Bill — is a man of about 39 years. He is a low-grade moron, is physically slight and weighs about 120 pounds. His head is asymmetrical and his hands are so small that he can slip them out of an ordinary pair of handcuffs with ease. He appears weak and peaceable, but his own family say that he is exceedingly mean and bad-tempered. He was in the reform school as a youth, and says in a laughing fashion that he has been in the county jail a dozen different times. He is now serving his second sentence in the penitentiary. He is a hopeless thief, and, according to his half-sister, his half-brother served a term in the penitentiary for accepting or buying some stolen goods from him. Firearms have an unholy fascination for Bill, and he is serving his present sentence for larceny of a gun.

His reputation as a thief is such that the sheriff of Washington County asked for the privilege of taking him, in May of 1917, to the county seat to clear up certain crimes. Bill began to tremble

when he was told that he was to be taken to Washington County and was so frightened that he could not change his clothes to go, but had to be dressed by a guard. He finally could contain himself no longer and blurted out to the sheriff, after reaching his destination, "I know what you want me for; you want me for killing Booth." The sheriff was thunderstruck, but asked him some questions and soon had a complete confession of how he killed William Booth on October 8, 1915. This occurred in a partly wooded field in an adjoining county. Bill told where he hid the revolver he used in killing Booth and gave a number of facts capable of being verified.

To go back to the murder in 1915, Booth's wife of about 35 and a young man of 23 by name of Branson, who was a family connection, were arrested for the murder, and after three trials they were finally convicted on the purely circumstantial evidence that certain witnesses had seen them, not together but separately, go along the road adjoining the field where Booth was shot. The theory of the prosecution, that Branson and Mrs. Booth were guilty lovers, had the support of neighborhood vicious gossip but there was no direct evidence. Mr. James E. Burdett, one of the lawyers who defended Branson and Mrs. Booth, writes me that for his own satisfaction he spent much time and energy tracing these scandalous rumors but could not find anything to support them. He says he is thoroughly convinced of their innocence, "for in all my conversations with them, they have never said or done anything that would lead me to believe them guilty, but to the contrary their actions have strengthened me in my belief of their innocence." Mr. Burdett has been a prosecuting attorney and his opinion is of value. From conversations with Mrs. Booth I am entirely satisfied of her innocence. I find from criminal lawyers that their guilty clients invariably give themselves away in little details, so that by the end of a criminal trial the defendant's lawyer is in a better position to estimate the guilt or innocence of the accused than either the judge, the jury or the prosecuting attorney.

The first trial in the case resulted in disagreement, the second in a conviction which was reversed by the supreme court, and the third in conviction. These three trials cost Yamhill County eleven thousand dollars, and Mrs. Booth and Wm. Branson were sentenced to the penitentiary.

Taking up the confession of feeble-minded Bill, while there was much incredulity, yet Governor Withycombe, who has shown an interest in the problem of the feeble-minded, at the request of the Oregon Prisoners' Aid Society, directed the warden of the penitentiary to go over the ground with this feeble-minded man. Sure

enough, Bill took the warden directly to the spot, some 50 miles from where the murder was committed, and found a 38 cal. revolver where he had placed it. It was covered with rust, due to 19 months' exposure. The balance of the story also checked up accurately, including the hiring of a certain pony by Bill to ride to the town where Booth lived, which the owner remembered Bill was also remembered by a camping party he stopped with on his way to Tillamook where the revolver was found, and he was remembered as wearing hobnailed shoes, and also by his peculiar conduct which led the campers to keep watch all night. Tracks of hobnailed shoes were found near the murdered body of Booth, and Branson, who was convicted, was shown to have worn button shoes without the hobnails at that time.

As for Bill's motive in killing Booth, he said Booth had called him a "con" and had threatened him, and he believed he had "tipped him off" to the game warden. To those who know the feeble-minded there is nothing remarkable in Bill's confession.

One of the most serious social problems presented by the feeble-minded girl is sexual promiscuity. The subject of this next case cannot be called immoral because acceptance or rejection of the moral code implies some understanding of it. Custodial supervision of girls of this type would appear to be the wisest provision for the girl as well as for society.

Case Number 8 (Thacher, 1917). In March of 1916, Mary —, a decidedly attractive girl seventeen years of age, was picked up on charges of sexual delinquency, and four men were tried in the circuit court of Multnomah County on the charge of contributing to the delinquency of a minor. Two boys were tried in the juvenile court on the same charge. Two men were convicted and sentenced to jail for four months each, and two men were acquitted by the trial juries. The two boys pleaded guilty in the juvenile court and were sentenced to the reform school, one of them being paroled. About six more men and boys were accused informally of cohabiting with this girl but the charges against them were not pressed. These offenses were committed between August, 1915, when she left the convent, and February, 1916. The girl was held in the House of the Good Shepherd during the grand jury investigations and trials in the criminal court, but in July of 1916 she was released from its custody though there was a charge of delinquency pending against her. The District Attorney's office estimates that these cases in which the girl was involved cost the county some fifteen hundred dollars.

This pretty girl was examined by Dr Rowland and was found to have the mentality of a ten-year-old child. She complained of having dizzy headaches and of suffering pain in her eyes. She stuttered in the characteristic fashion of the feeble-minded and was unable to read well. She had no power of abstract reasoning and could not tell the time—never could learn to do so. She was also entirely lacking in the capacity to estimate the passage of time. An occurrence which consumed a minute's time she was liable to say took from three to five minutes. However, she had a fairly good memory and composed doggerel verse which impressed the careless observer as an indication of mental power. Mary's mother is weak-minded and her brother, who is about 21, has epileptic fits and heart disease and from all accounts is also probably weak-minded. Mary was living at home at the time she was cohabiting with a dozen different men and boys, and her mother was as incapable of directing her daughter's conduct or even knowing what she was doing as a ten-year-old would have been.

Just before Mary was arrested for delinquency, the mother discovered that Mary's half-sister, a little girl seven years of age, had been raped. A young man who had been cohabiting with Mary and who admitted sexual relations with her less than 24 hours before the rape of the little sister occurred, was charged with this offense and indicted by the grand jury. It was alleged that the rape of the girl had occurred during the time that Mary left the room, leaving her little brother and sister with this young man. Mary said she had gone out of the room and stopped a moment in the hall, and because of inability to estimate the passage of time said that she was gone between five and ten minutes.

An investigation was made and it was found that Mary's brother had warned this young man just before he was arrested that the little girl had been raped. The family thought this young man was guilty, and the brother suggested that he run away and leave the state. An attempt was made to see Mary's brother to question him, but he was not at home at the time an officer called. When he did return the same afternoon and learned of the inquiry for him, he took a train that evening for California, beating his way, and has not returned to Portland up to the present time. All of the circumstances of the case indicated that Mary's weak-minded brother was probably the guilty one in the matter of the rape, and the charge against Mary's lover was dropped, though he served four months in jail for cohabiting with Mary.

Mary's mother begged so constantly for Mary's release from the

House of the Good Shepherd that the District Attorney's office consented on the ground that she was irresponsible and had been more sinned against than sinning. The weak-minded mother promised to take Mary to a farm and care for her. This was in July of 1916

In April, 1917, a request came to W. G. MacLaren of the Pacific Coast Rescue and Protective Society to get Mary and take her away as she had been left to her own devices by her mother (who had gone back to the city), and had become a public nuisance. Investigation showed that Mary was cohabiting with various men and boys, and was infected with gonorrhea, and was pregnant. On the day she was brought back to Portland she wrote to one of her boy lovers that she would not tell on him, but when her babe was born she would kill it and then rejoin him.

Then she made a half-hearted attempt to kill herself which necessitated several hours' work over her. She is now in the Louise Home being treated for gonorrhea and awaiting the birth of her baby.

Data showing the frequency of delinquency and dependency among the feeble-minded are not available. Still, it is hardly necessary to dwell further on the possible social dangers of these mental deficients. Case studies and statistical surveys agree in pointing out that the feeble-minded constitute an appreciable proportion of the socially abnormal classes. Therefore, all programs for the guidance and management of a feeble-minded patient must consider the possibility of existing or future social difficulties.

Social Adaptation.—The other side of the picture is presented in a number of studies dealing with the vocational and economic adjustments of feeble-minded persons. The general findings of these studies are fairly summed up in the following quotation from Shumbeig and Reichenberg (1933): "We conclude that it is possible, after individual study of defectives, to estimate with considerable accuracy the conditions under which they will make satisfactory adjustment. This study seems to show that the defective can be so treated as to be a positive asset in the community."

Fairbank (1933) has published one of the most interesting of these studies. She reported on the social adjustments of a group of children from the Locust Point District of Baltimore studied by Campbell (1917) seventeen years before. Of the 166 children who could be traced, 122 were found defective by Campbell. The adjustments of this defective group were compared with those of a group of 90 children who had not been diagnosed as subnormal by Campbell.

TABLE XVII—ECONOMIC STATUS OF SUBNORMAL AND NORMAL GROUPS

| | Subnormal Group (122) | | Normal Group (90) | |
|-------------------------------|-----------------------|------------|-------------------|------------|
| | Cases | Percentage | Cases | Percentage |
| Self-supporting | 50 | 41 0 | 48 | 53 3 |
| Supported by husband | 29 | 23 8 | 24 | 26 7 |
| Husband and wife both working | 16 | 13 1 | 7 | 7 8 |
| <i>Total self-supporting</i> | 95 | 77 9 | 79 | 87 8 |
| Partially self-supporting | 6 | 4 9 | 2 | 2 2 |
| Family Welf Ass suppt tempor | 8 | 6 6 | | |
| Family Welf Ass suppt prolong | 4 | 3 3 | | |
| No job, with parents | 5 | 4 1 | 9 | 10 0 |
| State care or widow's pension | 4 | 3 3 | | |
| <i>Total cases</i> | 122 | | 90 | |
| Own or buying home | 37 | 30 3 | 22 | 24 4 |
| Saving money | 19 | 15 6 | 32 | 35 6 |

TABLE XVIII—TYPES OF OCCUPATION OF SUBNORMAL AND NORMAL GROUPS

| | Subnormal Group (122) | | | | Normal Group (90) | | | |
|----------------------------------|-----------------------|-------|-------|-------------|-------------------|----------------|-------|-------------|
| | Men | Women | Cases | Per-centage | Men | Women | Cases | Per-centage |
| Factory worker | 17 | 26 | 43 | 35 2 | 1 | 19 | 20 | 22 2 |
| Unskilled laborer | 5 | — | 5 | 4 1 | 2 | — | 2 | 2 2 |
| Domestic worker | — | 8 | 8 | 6 6 | — | 3 | 3 | 3 3 |
| Chauffeurs | 9 | — | 9 | 7 4 | 3 | — | 3 | 3 3 |
| In R R shops and yards | 10 | — | 10 | 8 2 | 2 | — | 2 | 2 2 |
| In ship yards, etc | 7 | — | 7 | 5 7 | 6 | — | 6 | 6 7 |
| Supervisors (tally-keepers, etc) | 3 | — | 3 | 2 5 | 3 | — | 3 | 3 3 |
| Skilled laborers | 9 | 1 | 10 | 8 2 | 7 | — | 7 | 7 8 |
| Clerks, stenographers | 4 | 2 | 6 | 4 9 | 8 | 21 | 29 | 32 2 |
| Dictaphone operator | — | — | — | — | — | 1 | 1 | 1 1 |
| In business | 3 | 1 | 4 | 3 3 | 3 | 1 | 4 | 4 4 |
| In city or government jobs | 1 | — | 1 | 8 | 3 | — | 3 | 3 3 |
| In profession | 1 ^a | — | 1 | 8 | 1 ^b | 2 ^c | 3 | 3 3 |
| Never worked steadily | 3 | — | 3 | 2 5 | 1 | — | 1 | 1 1 |
| Worked only at home | — | 12 | 12 | 9 8 | — | 3 | 3 | 3 3 |

^a Barber^b Lawyer^c Teachers

The data in Tables XVII and XVIII show the economic and occupational adjustments of these two groups. Certain other findings may be briefly summarized: there were more marriages and slightly more sex delinquency among the subnormals; there was more dependency shown by affiliation with charitable agencies among the subnormals; the living conditions of the self-supporting subnormals were not as good as those of the normals; there were more juvenile court records among the subnormals, but the police court records were about the same; there was greater migration to better parts of the city by the normals. When one considers that this report deals with people for whom no special supervisory efforts were made, one may conclude that the dark picture of social degradation of the mentally defective is not entirely true.

Channing (1932) has prepared a monographic report on the occupational adjustment of 949 boys and girls who had attended special classes for subnormals in seven cities in different parts of the country, and of 167 persons discharged from two Illinois state schools for the feeble-minded. This study clearly shows the possibility of industrial placement of the subnormals. The types of jobs held for at least one year by persons of various mental age levels are shown in Table XIX. The following cases illustrate something of the occupational histories. The type of occupation in which the boy in the first history has been so successful is the sort in which one expects to find the feeble-minded. In this case, supervision apparently plays a large part in the successful economic adjustment.

Case Number 9 (Channing, 1932). Edward, another boy whose intelligence quotient was less than 50, had been steadily employed. When he left the institution with the approval of the authorities after a stay of five years, he was 19 years of age. He had never been a behavior problem but was dull in appearance and could mutter only a few syllables and grin when interviewed by the Children's Bureau representative. At least partly through the efforts of his relatives, his industrial adjustment had been successful and he had given no trouble at home. He had had a great deal of difficulty in finding work when he first returned home. The employment bureau to which a social agency had sent him said it could not find anything for him because of his mental defect. Finally, five months after he left the institution, his brother-in-law obtained a job for him at a large meat-packing plant in which he was employed. Edward's mother took him to

work for the first few days, and his brother-in-law looked after him in the shop. After leaving work in the afternoons, the boy went directly home and stayed in the house until his mother returned from her work. Outside of working hours he went nowhere unless accompanied by his mother. *From the day he first went to work to the day he was visited, nearly 35 years later, the boy had held the same job, that of laborer, opening and shutting refrigerator doors*³ He was said by his employer to be a very regular worker, never missing a day. His wages had been raised at the time of a general raise in the plant, from \$15 to \$20 a week.

Two points in the next history are noteworthy. One is the great stability of employment shown by the girl in staying at one job for four years. Of more particular interest is the work required by her in the first place. While we are not told from how many different labels she had to select, nevertheless the perceptual habits involved might ordinarily not be expected from a girl of this low level.

Case Number 10 (Channing, 1932). Anna's intelligence quotient was 47 (Goddard revision) about the time she left the institution, but was 57 according to an earlier test. She had worked steadily between 80 and 90 per cent of the seven years since she had left the institution. Her parents were illiterate and unable to speak English. Her father was a laborer. Anna came to the attention of the juvenile court because of sex delinquency when she was 12 years of age and in the third grade at school. She was sent to the state institution for the feeble-minded, where she remained 25 years, until she was 15 years of age.

Upon returning home, Anna found a position almost at once in a paint manufacturing establishment through a forewoman who knew her family. At first she pasted labels on bags of plaster and later labeled paint cans, work that involved picking out the right kind of label for the different kinds of paint. She stayed in this place nearly four years, her wage was raised from \$13 to \$17 a week. The superintendent of the factory said that she had been a regular and careful worker until about two months before he finally discharged her, when she began to stay out so late at night that she was unable to do her work properly the next day. Anna then got a position in a candy factory wrapping candy, which she kept for more than a year. At the end of this time she married, but she continued to live with her parents and to work. Her next position was in an establishment

³ Italics not in original.

that manufactured felt products. She was employed to string felt washers for gaskets at \$12 a week, later being advanced to \$15. She left this position after six months because she was pregnant. A few months before the girl was visited by the bureau agent, her husband had been killed by a police officer while robbing a store. At the time of the interview Anna was staying at home, keeping house for her father and her sisters, and making clothes for the baby she was expecting.

The following case illustrates the exceptional type of occupation that feeble-minded persons may occasionally engage in. The special interest and supervision of his employer is probably the most important single factor in the boy's development in a skilled trade.

Case Number 11 (Channing, 1932). Chester (intelligence quotient 54) was an automobile mechanic, one of the few skilled workers found. He had had but one position and had been employed practically the whole time since he ran away from the institution.

Before his commitment to the state institution for the feeble-minded, Chester's home surroundings had not been favorable. His parents and other members of the family quarreled frequently, and his father had finally died in an institution for the insane. His mother, according to the records of a relief agency that had formerly aided the family, was crippled and at one time used to sit in a big chair with a whip to discipline the children. When Chester was 17 years of age he was brought to court on a charge of raping an eight-year-old girl. He was sent to the Lincoln institution and remained there two years.

Chester had had two positions before going to the institution, driving a wagon for a junk collector and working in a stable caring for horses. About two weeks after his return, a friend of his brother employed him in a small automobile repair shop and taught him to clean and repair cars. At the time of the study, about 35 years later, Chester had become a skilled automobile mechanic, and his pay had been raised from \$22 to \$30 a week. His employer stated that he was slow but never forgot what he had learned, and had deft fingers. He apparently had no behavior difficulties after returning from the institution. He had left his home several times on account of the family quarrels and stayed at his employer's home. At the time of the study, his mother having died and his home having broken up, he had lived with his employer six months. His employer said that he was as fond of Chester as of his own children, and that on account of his mental defect he supervised him more carefully than his own boys.

The next two cases are perhaps more typical of the industrial adjustment of the feeble-minded.

Case Number 12 (Channing, 1932). Mental defect appeared to be the chief reason that Irene, a girl with the low intelligence quotient of 35 (Goddard revision), was unemployed much of the time. During a period of nearly six years she had worked 15 years with two employers.

Her home surroundings were good. Her father, a Russian Jew, kept a prosperous-looking grocery store, and her mother appeared to understand her limitations. When Irene was 15 years of age, she was criminally assaulted and brought into the juvenile court. After a mental examination she was committed to the Lincoln Illinois State School, where she remained for about a year and a half. The authorities there considered her "a quiet, well-behaved little girl."

After her return home, her parents kept her at home for a few months and then through friends got her a position in a laundry. Her mother said Irene managed to do the simple work of ironing collars successfully and found her way to the laundry without difficulty, although it was necessary to take two street cars. After six months the laundry burned down, and Irene lost her work. After several months of unemployment her mother found a position for her in a paper-box factory, folding boxes at \$7 a week. Here Irene remained for a year, when, according to her mother, she was laid off on account of slack work. During the following four years the family made no effort to get work for the girl, her parents said that they were afraid she might get into some trouble away from home. At the time of the inquiry Irene was helping with the housework and occasionally helped in her father's grocery store, although she was not able to make change and, according to her sister, "could not even sell candy."

Case Number 13 (Channing, 1932). Vincent's instability as a worker no doubt was largely due to his mental defect. His intelligence quotient was 45, he had never been in court for delinquency and was not difficult to manage except for occasional outbursts of temper. He had been sent to the Lincoln Illinois State School for feeble-minded at the request of his mother, who said that the boy had run away from home because his father had beaten him. His father was a steady worker, but alcoholic. His parents were not on good terms; his mother finally left her husband to live with another man. Vincent was 14 when committed to Lincoln, and 17 when he was sent home to his father on a vacation. During the four years that followed his return home, he had had 11 positions but had been unemployed

only about six months in all. Six times he had worked on a machine in the same paper-box factory but had been laid off on account of slack work. The nature of the machine at which he worked was not learned. Three times he had been employed in a piano factory, varnishing piano backs. The foreman there stated that he had twice discharged him because, although he was a good worker at times, he could not concentrate on his work long and would stop to play, and it was not possible to supervise him closely enough to keep him at work. The boy had also worked as a laborer for a coal company loading baskets of coal, but, according to that employer, was unable to make deliveries even in the next block because he could not find addresses. He left this job after an outburst of temper when his employer refused to let him drive the horses. The longest time he had stayed in any one position was six months. He had earned as much as \$18 a week in the piano factory but was getting only \$12 a week, tying boxes in bundles at the box factory, at the time of the study.

In Table XIX various types of occupation engaged in by persons of different mental age levels are shown. The sources of these data are: (a) Hanna (1924), whose placements were based on grade of work within an institution for the feeble-minded, (b) Beckham (1930), whose tables are based largely on Hanna, but who includes material from other sources which he does not specifically mention; (c) Channing (1932), from the tables showing the last employment of boys and girls earning more than \$20 a week. Only positions held for more than one year by individuals with IQ's less than 70 have been selected. This selection merely shows what sort of jobs have been held. It must be understood that the placement of occupations in these tables does not mean that all persons with the specified mental age could do the work. But it does indicate the sort of jobs held for appreciable periods of time and therefore suggests possible jobs that the mentally subnormal might be trained to do. Mathews (1922) reports the following jobs held by persons with mental ages less than eight years: Roofer's helper, restaurant helper, learning upholstering trade, fire tender in roundhouse, repairing auto radiators, nailing boxes, machinist helper, elevator operator. Unger (1926) concludes from a study of attempts to train subnormal girls as garment machine operators, that no attempt should be made to train any subnormal girl (a) with a mental age below 8 years or an IQ below 70, (b) who shows

TABLE XIX—OCCUPATIONS SUITABLE FOR VARIOUS MENTAL AGES

BOYS

| M A 5 | M A 6 | M A 7 | M A 8 | M A 9 | M A 10 |
|---|--|--|---|--|---|
| (a) Rope braiding Stable work Clothes sorting Handie freight Brush making Handle garbage Net making Handle cinders Garden work | (a) Laundry work Farm work Dairy work (b) Mow lawn Mix cement Kitchen scullion Bricklayer's assistant (c) Common laborer | (b) Rough painting Drive team Plow Cane chairs Make brooms Simple carpentry (c) Spray paint Clean automobiles Teamster Drive truck Helper on truck | (a) Blacksmith helper Repair mattresses Painter's helper (b) Clean boiler tubes Load hay Cut hair and shave Shingle and set glass Make wooden toys (c) Machine operator (automobile industry) punch press trimmer buffer drill press grinder sprayer gluing leather curter Tempering clay (machine) Peddler Stock boy | (a) Shoe repairing (b) Operate foot-power printing press Block paper into pads Repair furniture Paint toys Harvest crops Learn alto horn and drums Fancy brush making (c) Machine operator tenoner straightening wire-bending Shackling (food products) Operate motion picture machine Vest maker | (a) Carry mail (institution) Printing (b) Set and sort type Paint signs Electrician's helper Steamfitter's helper Make forms for cement Shellacking and varnishing Learn bass horn and cornet (c) Auto-top builder (hand) Operate gear-cutting machine Boilermaker apprentice Shipping clerk |

Press clothing
Baker's helper
Lather
Assembling dials
(electrical)
Feeding tack
machine
Soldier

GIRLS

| | | | | | |
|---|---|---|---|---|---|
| (a) Domestic work Operate mangle Prepare vegetables Sew carpet rags | (a) Hand ironing Fold clothes Hand weaving Knitting | (a) Hand sewing Machine sewing | (a) Rug weaving Basketry | (b) Knit stockings and mittens Make cloth toys Make pottery Operate automatic rug loom Cut out and make dresses Plain cooking Sew mounts on cards Sew buttons | (b) Raffia and reed work (pattern) Swedish embroidery Operate sweater machine Operate looper for stocking toes |
| (b) Follow pattern in simple sewing | (b) Crochet open mesh Weave rag rug with pattern Simple laundry work | (b) Plain and Italian hemstitching Cross-stitch Braiding Simple packing of small articles | (b) Operate bead loom Stencil work Dress doll without help | (c) Core maker Operate drill press Assemble metal horns | (c) Sales girl |
| (c) Folding paper boxes | (c) Operate small punch press | (c) Bunch maker (tobacco) Machine pack tobacco Bottle vinegar Fell sleeves by hand Case sausage Housework | (c) Factory inspection of auto head lights Basic canvas and patches by hand Serging sleeves (machine) Time keeper Operate tag-cutting machine Wrapping | | |

visible signs of mental retardation, (c) who shows emotional retardation, (d) who has inferior personality make-up.

This brief résumé of the occupational and economic success of mentally subnormal individuals indicates that social degeneration is not their necessary lot. It also suggests that training and supervision are important in the adequate socio-economic adjustment of the feeble-minded. One place where special attention is given to the necessary training is in special classes which have been discussed earlier. Another place for such training is the private or state residential institution.

Segregation—Segregation of the feeble-minded has long been held to be a solution of the social problems presented by these defectives. The preceding two sections illustrate the two major arguments for segregation. The earliest in point of time, and perhaps the one most frequently thought of today, is the protection of society. A later argument, and one which would seem to have greater value, is the possibility of training the defective to occupy a valuable, if humble, place in society. A third argument may be advanced, that in a limited number of cases, where ability is extremely low, or where socially undesirable habits are firmly established, the ordinary agencies of the community cannot take care of these defectives and therefore it becomes an obligation of the state.

The most usual argument against segregation is economic. The cost of maintaining institutions is too great. In 1932, the per capita cost of maintaining state institutions for feeble-minded and epileptics was \$262.59, according to data of the U. S. Bureau of the Census (1934). This amount is either too high or reasonably low, depending upon how one looks at it. It is too high if it is thought of as an outright expenditure for which the state gets no adequate return. On the other hand, it is quite probable that the cost of maintaining these people in the community is at least as much and in many cases may be a great deal more. For example, during the year 1932, the per capita cost in Indiana was \$187.69; it would have cost the state \$375.38 for Angel and Albert Dorbet (cf. Louttit and Frith, 1934). During this year, however, this couple were living in the community and were being supported by a weekly basket from the township trustee, a weekly allowance from the Family Welfare Society, and the charity of a landlord who gave them an apartment (rent \$15 per month) rent free. The expenditures from these sources were about

\$360.00. Moreover, Angel was beginning to engage in commercialized prostitution, the possible cost of which to the community cannot be estimated. At no time had this couple played a useful economic part; in fact, they had never risen above a begging level. Surely wise economy would segregate them

It is true that it is physically impossible to provide institutions for all of the mentally defective. But this is neither necessary nor desirable. There are three functions of institutions. First, to afford custodial care for the idiot and imbecile patients who are completely unable to care for themselves and who have no family in a position to do so adequately. Secondly, to afford custodial care for the defective delinquents who are social dangers. Thirdly, and probably most important, to provide training for, and subsequent supervision of, the patient's vocational and social adaptation to the community in which he lives. Every institution for the feeble-minded is today making an effort to make the third of these its most important work, although they vary a good deal in the success with which they do so.

We cannot be concerned here with all of the many questions that arise in connection with the problem of segregation of the feeble-minded. Neither can we discuss the work of the psychologist within the institution. The clinical psychologist in school, court, or other clinics is constantly faced with the question whether or not a given child should be institutionalized. There is, of course, no general answer that can be given to this question, but perhaps some tentative guiding suggestions may be useful.

Institutionalization *should* be recommended:

1 For idiots and low-grade imbeciles when the family is unable or unwilling to care for them, or where there is no family

2 For all grades of feeble-minded where definite anti-social habits are present, and where the persons present a menace to other people. Such persons should be committed to state schools for the feeble-minded rather than to jails or prisons.

3. For the higher-grade feeble-minded when the community does not provide adequate training and supervisory facilities. Such institutionalization should be for a period sufficient for training, and should be terminated only on the definite demonstration that the person involved can adapt to the social life of a particular community. Even then, his life should be officially supervised.

4. For girls of higher-grade ability, at least temporary custodial institutionalization is probably more necessary than for boys

5. For either (1), (2), or (4) in this list, private residential schools should be recommended if those responsible for the patient can afford to send him

Institutionalization *should not* be recommended, or should be only tentatively recommended.

1. For children of any grade where parents are willing and financially able to care for them by providing sufficient private training and supervision.

2. For younger children who have not had an opportunity of demonstrating whether or not they can adjust. This is true only if satisfactory training and supervisory facilities are available in the community.

3. For any child, even though he has a definitely inferior performance level, if he is satisfactorily adjusting, and gives promise of continuing to so adjust, to the community in which he lives.

Chapter V

SCHOOL RETARDATION

IN A preceding chapter it was pointed out that when the test scores of a large number of children are plotted, the distribution takes a form approximating the normal probability curve. On such a distribution the lowest one per cent or so of the scores are thought of as representing feeble-mindedness. Between these and the score which marks the lower boundary of the middle 50 per cent of the cases are those who are neither normal nor feeble-minded. Terman classifies cases within this range as border-line between 70 and 80 I Q., and as dull between 80 and 90 I Q. While we have earlier argued against the use of such definite boundaries, they do indicate the class of children with whom we have to deal. In their school adjustment, and also in other life adjustments, these children are retarded. However, there are reasons for retardation in school other than mild to severe degrees of intellectual lack. Therefore, the problem of school retardation for the clinical psychologist is rather more extensive than is often recognized by the classroom teacher.

DEFINITION

Unlike other groups of problems discussed in this book, retardation is peculiarly related to the school. Therefore, any definition must be educational. To be retarded means that a child is over-age for his grade. The reason for his retardation may lie with the child, with the teacher, with the school system, with the family, or with two or more of these. It is the clinician's task to determine what are the causative factors, and institute measures to correct them. Thus our concern is with each individual child who is retarded, and not with the administrative problems involved in promotion or non-promotion.

It will be suggestive, however, to indicate something of the number of retarded children in school. Mort and Featherstone (1932) secured data on promotion practices from 36 school systems carefully selected to represent an adequate sampling of all city school systems. In Table

TABLE XX—PERCENTAGE OF ACCELERATION AND RETARDATION IN THIRTY-SIX CITY SCHOOL SYSTEMS (AFTER MORT AND FEATHERSTONE)

| Grades | Semi-annual Promotion | | | Annual Promotion | | |
|------------|-----------------------|------|------|------------------|------|------|
| | 1 | 7 | 10 | 1 | 7 | 10 |
| Under age | 5 5 | 14 2 | 12 2 | 22 8 | 19 7 | 22 0 |
| Normal age | 78 4 | 46 4 | 40 8 | 73 9 | 58 6 | 62 1 |
| Over age | 16 1 | 39 4 | 47 0 | 3 3 | 21 7 | 15 9 |

XX are condensed data showing the percentage of accelerated and retarded in the three key grades—first, seventh or first-year junior high, and tenth or first-year senior high school. The increase in percentage of children retarded in the higher grades is clearly evident in both annual and semi-annual promotion schools. These data would suggest the desirability of closer individual attention to pupils in the lower grades so that when adjustment is possible it may take place early in the school career.

These data give no indication of the degree of retardation of various children in these classes. In Table XXI are shown the percentages

TABLE XXI—AMOUNT OF RETARDATION OF SIXTH-GRADE CHILDREN

| Amount Retarded | | Annual Promotion Schools | Semi-annual Promotion Schools |
|-----------------|-----------|--------------------------|-------------------------------|
| Years | Semesters | Percentage | Percentage |
| 1 | 1 | | 10 8 |
| | 2 | 20 5 | 11 1 |
| | 3 | | 2 4 |
| 2 | 4 | 5 3 | 2 1 |
| | 5 | | 5 |
| 3 | 6 | 1 2 | 3 |
| | 7 | | 0 |
| 4 | 8 | 2 | |

found by Mort and Featherstone of all children in the sixth grade who are retarded in various degrees. The slighter degrees of retardation are evidently much more frequent, but there is an appreciable number who are retarded two or more promotion units—years or semesters, as the case may be. These more extremely retarded children must have failed more frequently than the others. A pertinent question arising from this is, "In what grades are failures more frequent?"

Heck (1927), from a study of 25 annual reports of city school superintendents, found that the percentage of failures in the various systems ranged from 4 to 17, with a median at 9.1. Seventeen of these reports presented the data in such a way that the percentage of failures in the various grades could be determined. When the grades were arranged in rank order, with the grade having the highest percentage of failures first and the grade with the lowest percentage eighth, the following average rankings for the first eight grades were found:

| Grade | Rank |
|-------|------|
| I | 1 8 |
| II | 3 7 |
| III | 5 4 |
| IV | 5 8 |
| V | 4 1 |
| VI | 4 9 |
| VII | 4 6 |
| VIII | 6 4 |

This rank order is corroborated in all essentials by the work of Mort and Featherstone, to which reference has been made. They report for annual promotion schools 18.8 per cent failure in the first grade, 8.9 per cent in the fifth grade, and 0.7 per cent in the seventh grade. Their data for semi-annual promotion schools are essentially the same.

In the material just presented, and in similar studies which we shall not attempt to summarize, there are at least two findings that have a decided significance for our particular interests. First, it is evident that by the fifth or sixth grade approximately seven per cent of the children are retarded two or more years. When we investigate the grade location of the failures which produce such retardation we find that the lowest grades have an extremely high failure rate. Therefore, attempts at helping the children who fail should begin in the lowest grades. Among several of the methods that have been suggested, and tried, for alleviating the administrative problems of failure and retardation, is clinical study. This method, probably more so than any other, not only helps in the administrative problem, but is also of fundamental importance in helping the child to adjust to his school work and to his life problems in general.

CAUSES

The first task of a clinical approach to the problem of retardation is the determination of the cause or causes of a particular child's retardation. The classroom teacher who has watched the child's work for

a semester or a year and then decides that she cannot promote him, surely can be expected to express a reason or several reasons for his failure. Suggestions given by teachers may be excellent starting points in the study of the child, although they may be incomplete or at times completely erroneous. As an example of reasons for failure given by teachers, we present the data in Table XXII, taken from Per-

TABLE XXII—TEACHERS' REASONS FOR SCHOOL FAILURES

| CAUSE | Percentage of Cases | |
|---|---------------------|----------|
| | Cities | Counties |
| Learns very slowly | 36.7 | 36.9 |
| Lack of application, attention, etc. | 35.5 | 33.3 |
| Entered with weak foundation | 22.5 | 22.3 |
| Change of schools during year | 17.8 | 19.0 |
| Absence (illness) | 16.7 | 10.9 |
| Foreign language handicap | 13.0 | 14.6 |
| Intelligence tests show pupil subnormal | 12.9 | 20.5 |
| Immaturity | 12.7 | 11.0 |
| Poor home conditions | 10.0 | 13.7 |
| Absence (other than illness) | 8.5 | 8.2 |
| Poor health (pupil not absent) | 5.2 | 3.9 |
| Defective vision | 2.3 | 3.0 |
| Other physical defects | 2.1 | 2.8 |
| Defective speech | 1.8 | 1.6 |
| Defective hearing | 1.0 | 1.1 |
| Total number of pupils failing | 7531 | 1811 |

cival (1926). This table also shows the frequency with which the various reasons are mentioned by teachers in city and country schools. The percentages are based on a total of 9342 failures—representing about 16 per cent of the total number of children repeating grades reported for the year 1924-25 in the State of California.

This list does not exhaust possible reasons for a child's failing work in school. Other factors which have been mentioned include specific disabilities in one or two school subjects, teacher's attitudes, work habits, personality and conduct difficulties, teaching methods, etc. It is at times a knotty clinical problem to decide whether certain of these factors stand in a cause or effect relation to poor work at school. For discussion of these several factors we may conveniently classify them into three groups. (1) those primarily concerning the child,

(2) those in which the school, in its system or personnel, is at fault, and (3) those in which the home conditions play an important part.

1. *The Child*.—A low level of intelligence as represented by test performance probably accounts for a larger amount of retardation than the percentages indicated under that head in Table XXII would suggest. Most of the children in the groups "learn very slowly"; similarly, "immaturity" would probably be found to have low test performances. Children with similar low performances would be found in significant numbers scattered throughout all the remaining classes. The larger proportion of these mentally slow children do not exhibit a deficiency sufficiently severe to be classed as feeble-minded as described in the last chapter. Ingram (1935) claims that about two per cent of school children are sufficiently retarded, with I.Q.'s between 50 and 75, to require a special educational program organized in the form of special classes. In school systems where special classes are available they are usually ungraded and therefore the children in them can hardly be considered academically retarded in the sense that we are using the term here. In systems without special classes, of course, these very low-grade children would be counted among the retarded.

A considerably larger number of school children, approximately 15 to 18 per cent according to Ingram, have an ability level lying between the feeble-minded and the conventionally accepted average group. The I.Q.'s of this group range from 70 or 75 to 90 or a little below. There is probably some rough correspondence between the level of test performance of these children and their school success. Those having I.Q.'s in the 70's will be more retarded and have a more difficult time with school work than those high in the 80's. This is, of course, far from a perfect correlation.

We can calculate certain theoretical minima of retardation if we allow certain assumptions, such as the adequacy of test measures, the constancy of the I.Q., equality of all factors other than ability, etc. While in a specific case one or more, or even all, of the assumptions will not hold, still such theoretical data as shown in Table XXIII indicate what may be expected from children with I.Q.'s approximating those given. In the second column of the table is shown the C.A. at which a child with the specified I.Q. will have an M.A. of six years—when presumably he is able to start first-grade work with some hope of adequate achievement. If we assume that these children start to school when they are exactly six years of age and are kept in the

first grade until they show adequate achievement, they will be retarded to approximately the extent shown in the third column. If they stay in school until they finish the eighth grade, they may do so at the C A.'s shown in column four and will then be retarded as shown in column five. It is hardly possible that these theoretical figures will

TABLE XXIII —THEORETICALLY EXPECTED RETARDATION

| IQ | First Grade | | Eighth Grade | |
|----|-------------|-------------|--------------|-------------|
| | C A | Retardation | C A | Retardation |
| 70 | 8 57 | 2 5 | 18 | 5 |
| 75 | 8 00 | 2 | 17 3 | 4 3 |
| 80 | 7 50 | 1 5 | 16 25 | 3 25 |
| 85 | 7 06 | 1 | 15 3 | 2 3 |
| 90 | 6 60 | 5 | 14 4 | 1 4 |

be satisfied in a specific case. For example, if a child is too large, thus making social adjustment to smaller children difficult, teachers are apt to promote him. On the other hand, older children who are retarded lose interest in school work and increase their retardation by lack of application, leaving school as soon as they legally may. In spite of such factors, calculations such as those shown do have some value in prognostications of academic adjustments.

The actual attainments of this group of children in one or more subjects may be greater or less than theoretical expectancy. They are over-age for their grade, and their additional years of life have afforded experiences greater than those of younger children. Therefore, we may expect to find their interests, and to some extent their ability to satisfy them, in advance of their M A. Other factors discussed in this chapter, such as attitude toward school, attentiveness, and home attitude, may affect the achievement of a subnormal child in the same way that they affect the performance of normal or superior children. The task of the clinical investigator is first to establish a mental level and then to examine the possible influence of other factors. Only in those cases where the I Q. is 100 or more can one feel satisfied that the child is making the most of his opportunity.

The management of this problem, when it is uncomplicated with others, is primarily educational and therefore is most satisfactorily handled by the school. Where special classes are organized, children

with I.Q.'s below about 75 should be transferred to them. Children in the higher I.Q. groups may be placed in special classes for temporary periods, or the classroom teacher may undertake to teach a few of them at a slower pace than that for the rest of the class. In school systems where special classes are not available, the impossibility of normal advancement rate must be recognized and each teacher must meet the problem by more individualized work. Various plans which are directed to the individual advance of each pupil have been proposed or tried in the administrative organization of the school. In such situations children with subnormal abilities have somewhat greater opportunities to achieve their own pace.

Only in the case of those children with low abilities is the management problem one of adjusting the school curriculum to them. When children are retarded for any of the reasons now to be discussed, management will be largely concerned with the physical or social adjustment of the individual child to the end that he may make the most of his abilities.

Defective *physical condition* of a child often results in retardation. *Sensory defects* in vision and hearing, malnutrition, cardiac conditions, tuberculosis, and various types of crippling defects are among the most important of such physical difficulties. The importance of such illness in respect to school achievement alone is sufficient justification for adequate and periodic health examination of all school children. As far as the clinical psychologist is concerned, he must accept the physician's diagnosis, but he must be alert to the possibility of such defects existing, and when in doubt secure a thorough physical examination. Unfortunately, sensory defects—faulty vision in particular—may exist for several years without being recognized. Through these years the child struggles with his class work without success, and perhaps is subjected to a series of failures. Following recognition and correction of the defect his achievement improves, and, given sufficient mental ability, he may overcome his retardation. A case from our files illustrates the point, although the child has not been followed a sufficiently long time to show much improvement in his school work.

Case Number 14 (I. U. Clinic I-4017) Robert was nine years and ten months old when first referred to the Riley Hospital Psychological Clinic by the Director of Special Education in the Indianapolis City Schools because he appeared to be unable to read. At this time he

had a Binet M.A. of 8-10 and an I.Q. of 90. On the Witmer form board his first trial time was at the 50th percentile, but on the Porteus Maze his performance was only at six years. The examiner noted that he had a strabismus of the right eye; but as the boy wore glasses it was assumed that expert attention had been given to his vision. A year later his mother brought Robert back to the Clinic with the complaint that he still was unable to read. At this visit the boy was wearing a cover of adhesive tape over the left lens of his glasses. Upon inquiry it was found that this had been placed there only two weeks before on the physician's prescription to cover the stronger eye. Although his vision had been examined at a very early age, no one had discovered that diplopia interfered with visual perception until the boy reported blurred images. With a very simple test of word recognition it was found that his greatest trouble was in identifying the common small words which had no unique patterns; thus "was" and "win" or even "one" were confused, while longer words like "rabbit" or "wagon" were consistently identified. He was again given the Porteus Maze test and with monocular vision his performance was at fourteen years and six months. The contrast in the two performances separated by a year may be shown thus

| Maze | At Age 9-10 | At Age 11-0 | |
|-------|----------------|----------------|---------|
| V | 1 | 1 | |
| VI | $\frac{1}{2}$ | 1 | |
| VII | $\frac{1}{2}$ | 1 | |
| VIII | f | 1 | |
| IX | $\frac{1}{2}$ | 1 | |
| X | f | 1 | |
| XI | | $\frac{1}{2}$ | |
| XII | | 1 | |
| XIV | | 1 | 4 years |
| Score | 6-6 | 14-6 | |

The boy said that his work, other than that involving reading, was satisfactory, but that always the words had been blurred. He felt that even his reading had improved in the two weeks that he had been wearing the patch.

This problem could be summed up thus. Due to the lack of fusion, visual images had been blurred throughout the period when reading should have been learned. As a result, in this subject and those depending upon it attainment was low. The failures on his Binet examination also gave evidence of his inability to read, so his I.Q. of 90 may have been too low. It seems most certain that his Porteus Maze

performance was decidedly affected by this visual difficulty. Thus we have a boy who, because of the sequelae of lack of visual fusion, has been placed in a special class for retardates although his ability in test performance is normal.

Specific disability in one or more school subjects, especially in the first three or four grades, is frequently a contributing factor to general retardation. The tool subjects—reading, writing, spelling, and arithmetic—are all important for successful achievement in the content subjects in the higher grades. Therefore, if a child is unable to read, as was the case just described, all of his work suffers. The problems involved in such specific disabilities are so extensive that we shall devote the next chapter to their consideration.

Personality or conduct difficulties may, in individual cases, be important reasons for poor school work. Also, children are found whose personality or conduct disorders are aggravated, if not initiated, by their inadequate adjustment to school. From a study of 123 children who were problems in the classroom, and 107 truants, whom she compared with non-problem children, Johnson (1925) concluded that while retardation and misconduct were frequently associated, either might be a cause or a result of the other.

A number of other studies have been made of behavior disorders among retardates from which one can draw conclusions corroborating Miss Johnson. Burt (1921) reports that his delinquent group was retarded two years in general intelligence but was twice as retarded—four years in all—in educational achievement. Irwin and Marks (1924) also point out the educational retardation of criminals. Gates (1924), from a correlational study of educational achievement scores and measures of social and emotional maturity, concluded that socially and emotionally normal children, according to his criterion, showed no advantage over those children who were below his criterion. Dr. Richards (1921) found that the retardation of nineteen mentally normal children in a Baltimore school was “associated with, if not the disguised expression of, such faulty psychobiological reactions as shyness, laziness, inattention, and vicious tendencies, sensitiveness to criticism, daydreaming, hypochondriacal fears. . . .” Paynter and Blanchard (1929) studied the educational achievement of 330 problem children, half of whom had been seen in a demonstration child guidance clinic in Los Angeles and the others in a similar clinic in Philadelphia. They introduce their concluding section thus: “It seems

safe to conclude, tentatively at least, that problem children show no connection to educational achievement." They do point out, however, that many have behavior problems even though statistical study of a group does not show such a trend. Unfortunately, they did not have a control group for comparison, nor do they cite any illustrative case material. The percentage of problem children in the Los Angeles group having an A.Q. below 100 was 64.7, while among 4325 public school children in the same city the percentage was 66.2. Thus, about the same proportion of non-problem children as problem children were doing poor work. In this same city, only the children in the following personality and conduct groups varied significantly from this percentage

| | | | | |
|----------------------|------|----------|-----------|-----------|
| Inferiority feelings | 81.3 | per cent | with A.Q. | below 100 |
| Fearful | 59.0 | " | " | " |
| Sex experiences | 59.0 | " | " | " |
| Disobedience | 55.5 | " | " | " |

Even these variations are hardly large enough to demonstrate a causal connection between the specified problem and retardation.

In spite of the conflicting evidence, the possible influence of a behavior problem on school attainment must be considered by the psychoclinician. A child with a feeling of inferiority arising originally in the home may feel himself incapable of competition with his classmates, with the result that he falls behind. Another child from an undesirable home may have built up a social habit such as stealing, truancy, or the like, attention to which distracts from his school work. On the other hand, for a child of superior abilities school may be so boring that he finds other non-school outlets and neglects his school work. In any case, there is an association between the two problems, and both must be detected and cleared up before the child can be expected to make an adequate adjustment.

Inefficient *habits of work*, especially at the junior and senior high school or college levels, are frequently a most significant reason for failure. Reavis (1926) reports the following causes of poor educational achievement in 132 problem cases at the University of Chicago High School. These are arranged in the order of decreasing importance as causes: inefficient work habits, personality difficulties, training deficiencies, physical disabilities, mental disabilities, and psychophysical defects. An aim of elementary education, as important as achievement in the tool subjects or mastery of content, should be the

formation of successful methods of study. In those cases where such habits have not been formed, it is imperative that attention be directed to them before much improvement in content attainment can be expected.

2. *School*—*Age at entrance* may be a reason for over-agencess. The most usual age of entrance in the majority of school systems is six years. At least one system with which the author is acquainted adheres so strictly to the rule that a child who will be six years old a week or two after the opening of school must wait until the second semester to enter. This means that he then starts school retarded a semester. Some children in such circumstances find it impossible ever to make up the lost time. Other children, because their home is isolated and a long distance from school, because of illness, or because the parents do not want to send a small child a long distance to school, do not start until they are seven or more years old. Many of these children are never able to make up this initial retardation. Children who enter school at a very young age may also have difficulties. Keyes (1911) says, "Practically one-half of all children who begin the first grade after reaching their seventh birthday, or before reaching their fifth, may be expected to lose a year at some time during the grammar school course." While this is an administrative problem, and as such does not concern the clinical psychologist, it must be remembered as a possible partial explanation of a child's retardation; therefore the age of entering school should always be found.

Changing schools, especially during term time, frequently has serious consequences. School is not merely a place where the child goes and absorbs a certain amount of knowledge, simultaneously with such activity he must learn to adjust to his classmates, the teachers, other children met on the playground, teaching methods, and academic requirements of all sorts. These requirements are not simple for anyone, and perhaps less so for the young child. They take time; many children may require months, a semester, or a year to find himself and his place. If in the course of his attempts to make an adjustment he is transferred to another school, he may find himself forced to begin over again. The academic standards vary and different school systems, sometimes schools within the same system, are loath to accept the judgment of another school. Therefore, they "try" the child in a lower grade, or refuse to recognize a promotion when the transfer is made before the beginning of a new year. For some children

this is all right, it may retard them, but they or their parents are not concerned. For other children, even one such unpleasant experience is discouraging. Multiply such an experience only two or three times, and one cannot help but sympathize with one of our cases who said, "What's the use? I don't try to do anything." This boy has been in the 1B grade three terms and the 1A twice, although his mental ability was slightly above average. In this two and a half years he had changed schools four times. He had been referred to our clinic by the school principal, who felt that he must be so retarded mentally that he should be sent to a special class. In the following case similar etiological factors resulted in poor skill in reading, and subsequent discouragement.

Case Number 15 (Blanchard, 1928) Ronald was referred for clinical study and treatment because of his daydreaming, absent-mindedness, and poor memory, also because he was failing in his work in the seventh grade at school. He was fifteen years old at the time of reference.

According to the social history, the family life was unusually wholesome. The father was dead, but the mother used excellent judgment in bringing up the two boys and in adjusting her relationship to them. The younger boy was thirteen years old, and also in the seventh grade. There was an unfortunate situation in the mother's conviction that Ronald was subnormal which reacted upon the boy. There had not been overt comparison of Ronald with his younger brother, but the boy could not help drawing comparisons for himself. The mother tried to console him by telling him that school marks did not mean everything, that the really important thing in life was to develop a good character; but in spite of her efforts Ronald often spoke of his lack of brains and his "dumbness."

Ronald's early school history was a story of continual failures and fresh beginnings, through circumstances that were beyond his control. He entered school at the age of seven. The family was then living in Los Angeles. He was ill much of the time during the first year. In the summer, they moved to New Orleans, and Ronald started the first grade all over again. His health was better, but in the middle of the school year they moved to Austin, Texas, and he was placed in the second grade there. The same spring, they moved back to New Orleans, and he was tried in the third grade. Thus, in his second year at school, he had to make adjustments to three different grades in two different school systems. He was unable to do the third-grade work; and when the family moved again, this time to Minneapolis,

he was once more back in the second grade. This school year passed uneventfully, and he was promoted to the third grade in Minneapolis, but unfortunately it became necessary for them to return to Austin. He was tried in the third grade there, but was soon demoted to the second grade.

These changes from one city to another were necessitated by the father's profession, but they confused and discouraged the boy. He disliked school and wept when he was compelled to go. His attitude toward attendance improved somewhat after the family moved to Philadelphia, where they remained after the father's death and where he was able to stay continuously in the same school. He then made regular progress until he reached the sixth grade, but he had to repeat that, and, as stated above, was failing the seventh grade at the time of his reference to the clinic. A group intelligence test administered to his class gave him an intelligence quotient of 75.

At the time of the psychological examination at the clinic, he was fifteen years, five months in life age. His mental age by the Stanford-Binet test was fourteen years, six months; intelligence quotient 94. (If fourteen were used as C.A., the I.Q. would be 104.) Reasoning, auditory-memory span, and concrete visual imagery were above average. On Series 1 of the Stenquist Mechanical-assembling Tests, he made a perfect score, a performance far above the highest norms for fifteen-year-old boys and ranking with the uppermost one per cent of adult army men.

On educational tests, Ronald's achievement was very poor for both life age and mental ability. On the Otis classification test, the only subject in which he made a record satisfactory for his age and mental ability was arithmetic. He was particularly poor in spelling and English grammar, while geography and history were at least two years below his mental age.

On the Thorndike-McCall reading scale, his subject age was only eight years, eight months. That is, his reading proficiency was no better than that of the average pupil at the end of the third grade. Other tests confirmed this rating. On the Monroe silent-reading test, even on material adapted to grade three, his comprehension was only satisfactory for that grade. His oral reading, as measured by the Gray oral reading test, was also a poor third-grade performance.

Diagnostic tests revealed several parts of the reading process in which Ronald was strikingly deficient. His slow reading rate was the result of a short span of visual perception (he could take in only three syllables at a glance) and slow vocal-motor reactions. On the Thorndike vocabulary test, his score was only five when he was

asked to read the words for himself, but when they were read to him, he doubled the score. His visual vocabulary was adequate for only fourth grade, his auditory vocabulary was satisfactory for eighth grade. Thus, poor visual-verbal recognition and an inadequate reading vocabulary were also a part of his reading disability. On the Trabue language-completion test, on which there was no time limit, his score was equivalent to the norms for thirteen years and for sixth grade. This showed that he was able to grasp meaningful material fairly well, and that his comprehension of what he read would probably be good if he could read more rapidly and if he had a larger visual-verbal vocabulary.

The physical examination was practically negative. Even with a special eye examination, only a slight hyperopia was found. In view of his difficulty with reading, however, glasses were recommended.

The psychiatric examination was revealing chiefly of his conviction of mental incapacity, his feeling of inferiority, his tendency to self-depreciation, and his abnormal degree of daydreaming.

In the light of these facts from the social, psychological and psychiatric angles, it is easy to understand the difficulties for which Ronald was referred to the clinic. He appeared absent-minded in recitations because he could not read well enough to become familiar with the material discussed. He seemed to have a poor memory because of this same deficiency, he could not remember what he had not been able to read and comprehend. He had rated low on the group intelligence test given at school because he was unable to read rapidly and was therefore penalized by the time limit. The oral question-and-answer type of test (Stanford-Binet) which he was given at the clinic showed that he had average intelligence and a superior memory span. His daydreaming, in which he pictured himself as a great inventor, was the only way in which he could escape from the feeling of inferiority which the school failures, caused by his reading disability, had produced.

So far as the origin of the reading disability is concerned, it is probably safe to assume that it is found in the early experiences at school. He was called upon to adjust to the teaching methods in at least five different schools during the first three or four years. Moreover, the many demotions which he suffered as a result of these transfers must have given him a sense of failure that would almost inevitably condition his emotional responses. As we have said earlier, Gates has suggested that in such emotional conditions we may find the source of reading disabilities in many instances. His sense of failure and the feeling of inferiority were probably increased by the

contrast to himself which he saw in the excellent school adjustment of his younger brother who had started school at a more stable period of the family life.

The first step in treatment was to go over the psychological findings very carefully and in enough detail to make sure that he understood just what the tests had shown about him. He was assured that he had average intelligence, and was not, as he had been led to believe, intellectually deficient in any way. His really superior memory span, excellent reasoning, and unusual mechanical aptitude were stressed in giving him this information. An explanation of the development of his reading disability and of the effect this would necessarily have on his school work was made, and he was assured that with special methods of instruction he would soon be able to read well enough to do his school work efficiently. In order to emphasize this optimistic point of view, he was told of other cases of reading disability, as serious as his own, which had been discovered and corrected. This conversation did not remove his feeling of inferiority at once, nor did it enable him to give up his refuge in daydreams immediately; but it did relieve him of his besetting anxiety about his mental status, and put him in a receptive mood for beginning the remedial teaching.

A tutor, skilled in the use of the special methods of teaching necessary for the correction of his reading disability, was secured. The McCall standard test lessons were utilized as a daily text, and the boy was able to check his own progress by correcting each lesson and mapping out the curve of improvement from day to day and week to week. Drill in word recognition, for the purpose of increasing his reading vocabulary, was given according to the methods devised by Fernald and Keller, with an employment of the kinesthetic factors in learning to supplement the auditory and visual elements. An important feature of the tutoring was taking every opportunity to comment upon even the slightest indication of improvement, so that the boy would feel that he was successful and thereby stimulated to continued interest and endeavor. His scores on the McCall daily lessons were recorded in graphic form so that he was able to watch the ascending curve of progress. This concrete evidence gave him much encouragement.

At the end of the summer vacation, during which the remedial teaching was given, another form of the Thorndike-McCall reading scale was given. On this test, Ronald attained a reading age of thirteen years, six months, and his proficiency was satisfactory for the

end of the sixth grade. This was an advance of four years over the reading age that he was able to achieve before tutoring.

By special arrangement with the principal he returned to school with a conditional promotion to the eighth grade. For the first time in his life, he was reading for pleasure during his leisure moments, and much of the daydreaming had dropped out of the picture. He began to gain confidence in himself and in his own abilities. He passed the eighth-grade work successfully, and at the present time is in high school, taking the mechanical-arts course, and getting excellent marks now on his report card. Although modest and unassuming, he is now quite self-assured and shows a great deal of practical ability in assisting his widowed mother in the management of the family affairs.

In Table XXII it was seen that teachers gave changing schools as a reason for non-promotion in about eighteen per cent of the cases. Keyes (1911) reports the following percentages of 683 repeaters as having changed schools:

| Grade | Percentage |
|-------|------------|
| I | 29 |
| II | 50 |
| III | 42 |
| IV | 49 |
| V | 41 |
| VI | 27 |
| VII | 43 |
| VIII | 28 |
| IX | 28 |

Of course these data cannot be taken to mean that changing school was the only reason for the child's retardation, but they do indicate something of the seriousness of this factor.

Discovery of such school-changing as a contributing factor in retardation can at least be made the basis for recommending irregular promotions and special attention. The difficulties for the child inherent in changing schools should suggest to school officials careful individual study as the best method of placing the transfers. But the school cannot be held totally responsible—changing schools means changing homes. An attempt should be made to show parents the advantages to the child of living in one community long enough for him to make some advance. Probably this stability is most desirable in the first four or five grades; after this, changing schools is possibly not so potentially harmful.

Absence as a factor in retardation has long been recognized as im-

TABLE XXIV —PERCENTAGE OF ABSENCE AMONG RETARDATES

| Grades | Keyes ^a (1911) | Percival ^b (1926) | |
|--------|------------------------------|---------------------------------|---------------|
| | | Illness | Other Reasons |
| I | 30 | 25 3 | 7 9 |
| II | 33 | 15 8 | 6 9 |
| III | 36 | 11 1 | 6 2 |
| IV | 20 | 11 9 | 7 2 |
| V | 19 | 11 3 | 7 8 |
| VI | 16 | 11 4 | 10 2 |
| VII | 10 | 13 5 | 15 1 |
| VIII | 23 | 18 6 | 18 0 |
| IX | 20 | | |

^a Absence of 10 days or more for all causes. Based on 683 repeaters. Years 1904-07^b Teacher's reasons. Based on 9342 failures. Years 1924-25

portant In Table XXIV are shown data on absence among repeaters or non-promoted children, gathered nearly twenty years apart. While these figures do not closely check each other, they do show a tendency for absence, as a cause for failure, to decrease from the first to the sixth or seventh grade, and then increase. Absence in the earlier grades may be a reason for failure in those grades, and it also may be an indirect cause of failures in subsequent grades because of the lack of foundation in the tool subjects. The reason for absence may also be significant. Poor health not only may mean absence, but may also result in lessened ability to work when the child is in school. Home attitudes which may in themselves be detrimental are often reflected in the child's absences. In the higher grades truancy, especially among the older children, may suggest low ability and resultant dislike of school. The psychochinician must know not only the extent of absences, but also the reasons for them.

Other school conditions may be significant in explaining retardation. *Weak preparation* of the child in one grade may result in difficulty in a higher grade. The teacher's or *teachers' attitudes* may be important. Mary Sayles' (1925) case of Mike Romano, whose first-grade teacher said he was the worst little savage she had and who convinced the other teachers that it was true, illustrated such a situation.

3. *Home*—Elsewhere in this book we have discussed the influence of the home on the behavioral development of the child. Those per-

sonality and conduct disorders that can be traced to the home may interfere with his school work and result in sufficiently unsatisfactory work so that the child fails a grade, and is thus retarded. Thus, the possible influence of behavior problems on school achievement discussed above depends indirectly, but in a large measure, on home influence. It is hardly necessary to do more than call attention to this possibility here, but there are several more direct influences of the home that must always be considered.

Children from foreign language-speaking homes frequently have difficulties in academic achievement. Statistics shown in Table XXV indicate that this is a very significant factor, especially in the

TABLE XXV—PERCENTAGE OF FAILING CHILDREN FROM FOREIGN LANGUAGE-SPEAKING HOMES

| Grade | Keyes (1911) | | Percival (1926) | |
|-------|--------------|------|-----------------|--|
| | City | City | Country | |
| I | 52 | 17.5 | 26.8 | |
| II | 50 | 15.6 | 14.7 | |
| III | 42 | 11.1 | 10.2 | |
| IV | 49 | 13.8 | 16.6 | |
| V | 41 | 7.3 | 11.8 | |
| VI | 27 | 10.5 | 7.1 | |
| VII | 43 | 6.8 | 7.9 | |
| VIII | 28 | 4.0 | 2.3 | |
| IX | 24 | | | |

lower grades. The contrast between the data of Keyes and those of Percival is probably due to the geographic locations of the schools studied. The frequency with which failing children come from non-English-speaking homes is great enough to warrant a definite attempt at amelioration. For the child, this may take the form of special classes in English, or a special type of program in the language work in those schools where a large proportion of the children are of foreign extraction. Americanization classes in English for the parents of such children may also be helpful.

The *economic condition* of the home is also a frequent determinant of the child's school work. That there is a rather significant correlation between economic condition and performance on intelligence tests has been shown a number of times. The resultant correlations raise questions rather than answer them. Is the performance poor

because of lack of opportunities, or do the people exist at a low economic level because of the poor performance? Whatever the answer, the retardation of such children in school is probably due in part to their poor performance ability. In some measure, also, their school attainment is low because of the inability of parents to supply suitable books and equipment, necessary clothing, or healthful food and living conditions. A pair of twins—superbly named Ella Nella and Nella Ella—known to our clinic, tested on the Binet as low normals, but their school achievement was even lower than would be expected. In part, the answer was found in the fact that they had to miss school an astonishing amount of time because they lacked clothing and food. In cases of this sort, especially when the child's ability is reasonably high, the psychoclinician should introduce the case to the proper agencies which care for the material welfare of children.

In the following case of retardation the economic condition of the home was of decided significance in the boy's poor work. The author says, "This case represents one of the most successful adjustments that has come to the attention of the Clinic, but it shows that the bare mental test results do not always tell the whole story, and that if we are to make recommendations for child guidance it is absolutely necessary to take into account the total situation, intelligence, temperament, home situation and character traits as well."

Case Number 16 (Babcock, 1927). Fred, age fourteen years and seven months, a German-Hawaiian boy, came to the Clinic because he was accomplishing nothing in the sixth grade and the teachers said that he was paying so little attention to his school work that he would go to sleep right in the classroom.

The interview with the boy and the family history obtained by the visiting teacher helped a great deal to explain Fred's present difficulties. His own father had left home, and his mother was at that time living with a Negro. One boy, older than Fred, was a cement inspector but his earnings were insufficient for the family. For some time Fred had been selling papers and helping as best he could, but a month before had found a new job which would pay \$30 a month and still permit him to go to school which he was anxious to do. He had gone to work delivering milk, going on duty at 10 P.M. and working until 5.30 A.M. He would then go home, sleep for about an hour, go to school and sleep again in the afternoon for a time. He enjoyed his school work and had always done fairly well until this

time, but he simply could not stay awake in school after being up all night

The test results show that Fred had a Binet age of twelve years, IQ 85. There were no special disabilities, and his response throughout was marked by care and attention to the details of whatever he was asked to do. This was especially marked in the memory for designs which he reproduced in an accurate and finished manner. His father was a carpenter, and Fred seemed to have some of the same qualities that would make a good workman.

During the interview the examiner became more and more favorably impressed by the boy's attitude. In spite of the home situation, he had willingly assumed responsibility for the family welfare and was cheerfully giving all of his earnings to his mother. There was something very winning about the boy's manner; he had the persistence, industry, and attention to detail which is commonly associated with German blood, and he had just enough admixture of the Hawaiian good nature and cheerfulness to endear him to all of his associates. His teachers were fond of him in spite of the fact that he was not keeping up with his work, and had been interested enough in his welfare to ask the visiting teacher to help with his case. He was anxious to remain at school but, under existing circumstances, it seemed quite impossible.

He had good ability, but, what was more important, he seemed to have such excellent traits of character that he deserved to have some opportunity to develop them. He obviously could not remain at home and still go to school as there was no assurance of permanent support, and he would be forced to give up school entirely, in at best another year.

The visiting teacher found that there was an opening at Kamehameha Boys' School (a private secondary school for children with Hawaiian blood) but they preferred to take only boys of excellent mental endowment. Arrangements were finally made to take him on trial with the possibility of remaining if he proved a good student. Later reports show that he is getting along very well. He is not a brilliant student but is doing thoroughly commendable work and gives excellent promise for the future.

The parents' attitude toward the school may be significant. Constantly changing schools, of which we have already spoken, is often due to rather unnecessary wandering of parents. One little girl attended the Bloomington City Schools about one month. Her father was an itinerant basket maker and her mother the prophethess of some

occult faith In addition, the mother was decidedly the dominating factor in the family. When she had the call to move, which she did frequently, father and daughter went with her Attempts made to show the mother the bad effects the frequent moving was having on the child were to no avail To the mother, school was a necessary evil but it must not be allowed to interfere with her activity Sometimes the parental attitude may be definitely and overtly antagonistic to the school One foster mother of a twelve-year-old boy who was a constant disciplinary problem and whose work was for this reason suffering, took the aggressive attitude that the school was totally to blame. She falsely accused the teacher, and constantly sided with the boy in his war with the school authorities. She admitted that he was hard to handle at home, but even this was blamed on the school The most probable truth in the case was that both the mother and the school were at fault; but, because of the mother's attitude, conciliation was impossible.

MANAGEMENT

Study of children referred to the clinic because of retardation in school must be directed primarily to determining causes or reasons for the poor work As low ability is so frequently a factor, certainly the determination of mental test level is the most important first step. In no case, except possibly for those who are unquestionably feeble-minded, should the test performance be taken as the final reason. The relation between the mental ability and school achievement should be determined This may be done by using educational achievement tests and calculating the A.Q. If this ratio is less than 100, the child is not achieving to his possible limits and a reason for this must be sought In lieu of such tests, grade placement may be studied in the light of the child's school history—age of entrance, absence record, promotion record, changes in school, etc.—and an estimate made as to how satisfactorily he is placed in school. Here again, if his grade placement is below that which might be expected from the history, further reasons must be sought The psychologist's task is to evaluate all of the possible factors in the complex situation and form a conclusion as to the most probable causes

In an individual case, such a conclusion may include a number of items Efforts should be made to correct, as far as possible, each of

these. Recommendations for these cases will include, where pertinent and possible

1. Correction of sensory defects
2. Improvement in general physical condition
3. Special attention by the school teacher or a special tutor in subjects (especially reading) in which difficulty is evidenced. This may mean that a tool subject should be literally started over again.
4. Special arrangements for extra or irregular promotion or change of class in school.
5. Attendance at a special class for subnormals.

Chapter VI

SPECIFIC DISABILITIES IN SCHOOL SUBJECTS

PSYCHOLOGICAL clinics have to deal not only with children presenting the problem of general retardation, but also with children presenting a retardation apparently limited to one or two subjects. A child who exhibits behavior of an intelligent sort and whose academic achievement is in general good may be unable to learn to read, or to do arithmetic, or to spell, and so presents a baffling problem to teachers and parents. By attending to certain details, it is possible to teach practically all such children reading, arithmetic or any other subject in which they are deficient.

Our concern in this book will be with deficiencies in the tool subjects only—reading, arithmetic, spelling, and writing. Of course, equally serious and important problems may be presented by a deficiency in any content subject from the elementary school through college, but usually such difficulties are due to lack of interest, or to a lack in the facility with which tool subjects are used, or to defects in study habits.

If there is a wide discrepancy between achievement in one subject and that in all other subjects it will automatically eliminate lack of intelligence as a cause. When, however, the discrepancy is not so great, or when some degree of deficiency is evident in several subjects, then lack of intelligence might well be a contributing factor. The plausibility of this is indicated in the correlations between the tool subjects and intelligence. Approximate median correlations derived from tables given subsequently in connection with the discussion of special subjects are as follows:

| | | |
|------------|----|-------|
| Reading | 60 | |
| Arithmetic | 55 | i i i |
| Spelling | 50 | |
| Writing | 40 | |

We might justly conclude from these figures that a child may be very deficient in reading and somewhat so in arithmetic, but be aver-

age or satisfactory in spelling or writing. For reasons to be noted later, the converse is not necessarily true. Thus a child poor in spelling or writing might be excellent in arithmetic or reading. But his deficiency is evidently not due to lack of intelligence—in fact, it may be related to a superior intelligence.

There are very real reasons why poor achievement in the tool subjects should be investigated and corrected. Even cursory study of the modern curriculum will show how important reading and arithmetic, at least, are to achievement in all subjects. History, geography, civics, foreign languages, science, English, etc., all depend in an intimate way upon reading facility; while algebra, geometry, bookkeeping, and science are dependent upon arithmetical ability. Therefore we shall discuss these tool subjects, especially disabilities in them, from the point of view of diagnosis and, to some extent, correction.

Relations between Language Abilities—Meumann (1907) early pointed out a communality in the linguistic activities—reading, writing, spelling and speech. Schneek (1929), using a correlational technique, demonstrated a common verbal factor. The diagram in Figure 11 is an attempt to illustrate the relationships existing among the various language skills, especially in their developmental aspects.

The child's first association is usually between the sound of an object's (activity, relationship, etc.) name as spoken by another person and the object itself; then, proceeding clockwise around the diagram, he learns to say the name himself, to read it, and finally to write it. In the course of this sequence other associations are made as indicated by the double-headed arrows. The numbering of these bonds approximates the ordinary sequence of their establishment. However, the definiteness of this sequence must not be relied upon too strongly, for there are evident variations in individual cases, and often one or more associations are established more or less simultaneously. Specifically, these connections may be thought of as follows:

1. Association of the name, as spoken by someone else, and the object.
2. Association of the name, as spoken by self, and the object.
3. Association of the sound of the name and the kinesthetic cues in speaking the word. Auditory perception and vocal articulation abstracted from the object, *per se*.

The first three associations comprising the basis of spoken language

are established early in the child's life, adequately in most children by the age of two years. Their genesis is related not so much to

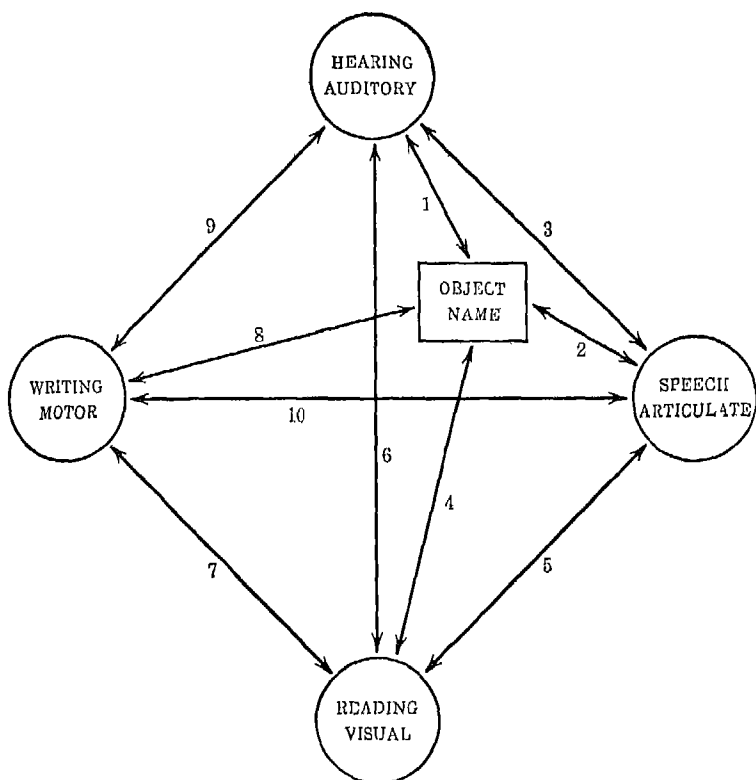


Figure 11—Relations of Language Abilities

formal training as to the complex of interactions of the child with his familial and social environments

- 4 Association of the written or printed name with the object
- 5 Association of the written or printed name with vocal articulation, as in oral reading.
- 6 Association of the written or printed name with the sound as pronounced by self or others.

This second group of three associations forms the basis of reading ability. They are usually not well formed in children with an intelligence level much below six years. This means that for most chil-

dren the formation of such associations takes place under formalized training, usually in the schoolroom

7. Association of the printed or written word with the motor skills necessary to print or write it oneself. This may or may not involve spelling, e.g., Hollingworth (1923) reports a boy who could not read or spell, but could recognize his name and could draw it as he would a house, although he could not spell it otherwise.
8. Association of the object with the motor performance necessary to write its name. This obviously involves spelling.
9. Association between the sound of the word and the motor act of writing it, as in writing or spelling from dictation.
10. Association between the auditory and kinesthetic perception in saying the word oneself and the motor act of writing it.

The last group of associations is probably the latest to be formed and usually follows, or only in part is simultaneous with, the development of reading skills. Writing as a language skill involves spelling, and except in the case of "spelling bees" or occasional requests like "How do you spell _____?" this aspect of the language skill is always so associated.

It should be evident that if it is impossible to form any one of these associations the development of all the rest will be retarded to some extent. The degree of retardation decreases from that shown by the deaf child through a fairly regular sequence to the relatively slight effect of motor paralysis or other inability to write.

READING

Perhaps the skill most necessary to be achieved by every child is that of reading. For subsequent academic work it is essential, for all types of occupation higher than the most unskilled labor it is of greater or lesser importance, and in profitable and satisfying use of leisure time it plays a significant part.

We speak of reading as a skill or ability to be secured in school as though it were a relatively simple unitary type of behavior. Quite to the contrary, it is psychologically very complex. Factors of a sensory, motor, perceptual, and intellectual nature are all involved. Usually two . . . mechanical, or the ability to pronounce words in the printed sequence with or

without any expression in the reading, and (2) comprehension, or the ability to understand what is being read. The first of these may exist without the second, but under ordinary conditions the second presupposes facility in the first.

Reading mechanics require sensory, motor, and perceptual normality. Thus, visual defects obviously limit the degree of reading skill that can be secured. To a more limited degree, auditory defects may affect reading. Kinesthetic deficiencies play some part, especially in connection with vocal articulation or oral reading, and perhaps in connection with eye movements in silent reading. For the totally blind, cutaneous sensation of pressure will affect the development of skill in reading "by touch." Motor disabilities, in vocal articulation and eye movement especially, play a part in poor reading. Perceptual factors—such as the lack of habit in identifying word forms or letter forms, habits of perceiving letters instead of words or words instead of phrases, too frequent or irregular eye movements influencing the perception span—are all of importance in explaining specific cases of reading disability.

As we have pointed out, lack of intelligence will probably be evident in other ways, but it is of great importance in explaining deficiency in comprehension. This more complex aspect of reading skill is also affected by the amount of previous experience with words, with the subject matter, with vocabulary, or with the specific language being read. Also, poor reading mechanics exert an undesirable influence on the comprehension of what is being read, although it is sometimes found that superior children may pick out a good deal of the meaning of a passage, while exhibiting at the same time only fragmentary perception of the material.

In the preceding discussion we have indicated several possible factors in the etiology of reading disabilities. We shall discuss these factors in a somewhat more systematic and detailed fashion and then consider diagnostic measures related to them.

CAUSES

1. *Intelligence.*—Table XXVI presents a summary of correlations between intelligence and reading ability. The wide range exhibited by these correlations is probably to be accounted for by the size of groups, their age range, and the tests used in measuring both intelligence and

TABLE XXVI—CORRELATIONS BETWEEN INTELLIGENCE AND READING

| Source | Intelligence | Reading | No of Cases | Description | r |
|--|-------------------------------|------------------------------|----------------------------------|---|--|
| Arthur (1945) | Kuhlmann Binet M A | Haggerty comprehension | 171 | 1 | .69 |
| Burt (1911) | Binet | Own test | | Ages 7-14 | .54 |
| Davidson (1937) | Binet I Q | Own test | 13 | Pre school | .69 |
| Gates (1921a) | Binet M A | Composite test score | C 10 C 10 C 10 C 10 | Children with median I Q 116 Gr III Gr IV Gr V Gr VI | .30 .35 .58 .71 |
| Gates (1921) | Binet | Comprehension | C 10 C 10 C 10 C 10 | Gr III Gr IV Gr V Gr VI | .29 .36 .41 .69 |
| | | Rate | C 10 C 10 C 10 C 10 | Gr III Gr IV Gr V Gr VI | .10 .23 .56 .60 |
| | | Comprehension Rate | C 100 C 100 | Gr IV-VIII Gr IV-VIII | .49 .46 |
| | Composite group | Comprehension Rate | C 10 C 10 | Gr III Gr III | .71 .68 |
| | National | Comprehension | 75 75 | Gr III-VI 1920 " 1921 | .88 .87 |
| | | Rate | 75 75 | " 1920 " 1921 | .83 .89 |
| Gates and La Salle (1923) ^a | Binet M A | Comprehension | 75 75 | " 1920 " 1921 | .74 .78 |
| | | Rate | 75 75 | " 1920 " 1921 | .65 .65 |
| Goodenough (1915) | Binet M A | Stanford Achievement | 100 | Gr II-IX | .84 |
| Haggerty (1913) | Delta II | Haggerty Sigma 3 | 442 | Gr IX | .62 |
| Ladd (1933) | Haggerty | Three-test composite | 315 | Gr III-V | .71 |
| Lee (1932) | Binet M A | Gates Silent | 73 63 68 73 63 68 | Gr IV Gr V Gr VI Gr IV Gr V Gr VI | .23 .01 .45 .28 .24 .55 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Monroe (1932) | Binet I Q | Average of five tests | 155 101 | Reading disability cases average age 11 years Control group, average age 8 years | .65 .60 |
| | | | | | |
| Porreus (1912) | Binet | Educational attainment scale | 32 16 | Feeble-minded in institutions Boys Girls | .74 .68 |
| St John (1932) | Binet and group composite I Q | Composite of three tests | 503 455 | Boys Girls | .51 .60 |
| Taylor (1928) | National | Thorndike McCall | 1968 | Gr IV-VIII | .77 |
| Terman (1915) | Binet I Q | Stanford Achievement | 109 | Gifted children, 10-11 years old | .33 |
| True ^a | Composite of three tests | Composite of four tests | 218 218 | Gr IV-VIII Gr IV-VIII | .10 .87 |
| | | | | | |

^a This unpublished thesis was not available to the writer. The coefficients given are the extremes of a range of coefficients. They were obtained from Ladd (1933).

reading The significant facts regarding the distribution of these coefficients are as follows:

| Decade | Number |
|--------------|----------|
| — 10 to — 01 | 2 |
| 00 to 09 | 0 |
| 10 to 19 | 0 |
| 20 to 29 | 6 |
| 30 to 39 | 4 |
| 40 to 49 | 4 |
| 50 to 59 | 5 |
| 60 to 69 | 12 |
| 70 to 79 | 7 |
| 80 to 89 | 6 |
| modal decade | 60 to 69 |
| median | 60 |
| mean | 55 |

For such a series of values the median is statistically the more adequate, so we may take the correlation between intelligence and reading ability to be around .60. However, differences will be noticed in the figures based on intelligence scores per Binet and per various group tests. The correlations with group intelligence tests are usually higher. In the present table the median for the eleven coefficients based on group tests is approximately .75. On the other hand, when intelligence has been measured by non-verbal tests the coefficients are much lower, e.g., Gates (1922a) determined such correlations and his highest coefficient was .28. There is also some evidence that the correlations between mechanical aspects of reading, speed, etc., and intelligence are lower than the coefficients based on reading comprehension. In spite of variations caused by such factors, it is clear that deficient intelligence may frequently be at the basis of reading difficulties. A minimum mental age required to learn to read has not been satisfactorily settled, although serviceable reading is probably not acquired with an M.A. below six. Frequently the feeble-minded develop a surprising facility in mechanical reading, but lack adequate comprehension of what is read. Porteus (1922) mentions a feeble-minded subject with an M.A. of seven years and two months who scored ten in reading and only three in comprehension on his educational attainment scale.

Because of the obvious relation between intelligence and reading, the first step in the study of a case presenting difficulty in reading should be determination of intelligence. Any child with an ability represented by a Binet I Q of below 80 will probably exhibit some

degree of reading retardation. This should not lead to the attitude that it is useless to try attempts at improvement; but the teacher must be warned that the child's accomplishment will be low and his advance slow. However, some special attention and extra drill may well repay the effort expended.

Sensory Visual Defects—Severe loss in visual acuity obviously makes impossible the development of reading skills in the ordinary sense. Other reading methods may, however, be substituted. Gray (1917) and Monroe (1932) both report that eye defects resulting in partial acuity loss do not appear to be significant factors in causing reading disabilities. This does not mean, however, that in certain cases refractive errors may not be direct or indirect causes of difficulty in reading. Therefore, careful eye examination should always be made

For example, Eames (1932), in a study of 143 unselected children, found no significant difference in visual acuity, but did find that the disability cases showed a significantly greater degree of exophoria. Similar findings are reported by Selzer (1933), who found that 90 per cent of 33 disability cases showed muscle imbalance, as contrasted with only nine per cent of 100 unselected school children. Case number fourteen, presented in a previous chapter, illustrates the effect of strabismus in reading. The seriousness of muscle imbalance in its effects on reading indicates the need for careful examination by a competent ophthalmologist. As orthoptic training methods do materially improve ocular muscle weaknesses, such training should be an early step in the correction of those cases of reading disability which show such a condition.

Auditory Defects—Loss of auditory acuity is probably not nearly so serious as loss of visual acuity. While hearing loss does have an effect on the development of speech and thus could affect oral reading, it alone will not affect silent reading if suitable methods of teaching are used. Essentially this would consist of emphasizing the associations between the object and its printed or written name directly, without the usual intervening step of the heard and spoken sound.

① *Motor Defects: Eye Movements*—In reading, the eye moves from left to right not by a steady sweeping motion, but in a series of very quick jerks interrupted by pauses. Figures 12 and 13, reproduced from Gray (1922), illustrate the difference in eye movements as shown

by a good and a poor reader. Gates (1922a) found in his study that eye movements were secondary to defects, rather than defects being caused by poor eye movements. Increased speed and facility in read-

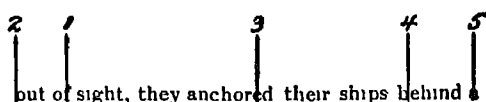
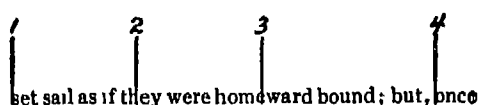


Figure 12—Eye Pauses of a Good Sixth-grade Reader (After Gray)

ing would require fewer and shorter pauses, with fewer movements back toward the left of the line. We should expect to find improve-

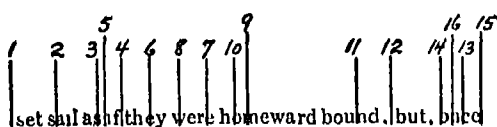


Figure 13—Eye Pauses of a Poor Sixth-grade Reader (After Gray)

ment in these ways as children advance in school and therefore have higher reading ability. Just this sort of improvement is shown in Table XXVII from data presented by Gray (1922).

TABLE XXVII.—CHANGE IN EYE MOVEMENTS IN READING WITH ADVANCE IN GRADE

| Grade | Silent Reading | | | Oral Reading | | |
|-------|--|--|---|--|--|---|
| | Pauses per Line, Average Number | Length of Pause, Average ^a | Regressive Movements, Average Number | Pauses per Line, Average Number | Length of Pause, Average ^a | Regressive Movements, Average Number |
| 4 | 9 1 | 12 5 | 2 1 | 13 3 | 14 4 | 3 5 |
| 5 | 10 0 | 13 8 | 3 5 | 9 3 | 13 7 | 3 9 |
| 6 | 7 5 | 12 5 | 3 1 | 9 0 | 13 0 | 5 4 |
| 7 | 7 8 | 13 6 | 3 5 | 10 6 | 13 1 | 4 2 |
| H.S. | 6 4 | 11 5 | 2 5 | 7 8 | 12 8 | 3 7 |
| C | 6 9 | 11 3 | 2 6 | 8 8 | 12 9 | 3 4 |

^a Time units are fifths of a second

Eye movements may be observed directly or through a mirror, and are usually recorded by a photographic technique Gray (1917, 1922) describes in detail the apparatus and method used in his studies in eye movement in reading. If inefficient eye movements are discovered in a particular case, some attention may be directed to their improvement; but such efforts alone will seldom correct the difficulty.

Vocal Articulation—As we said when considering auditory acuity, inability to hear a word interferes with learning its pronunciation; and this in turn may affect the development of reading, especially of oral reading. However, speech difficulties are more serious in themselves than in any effect they might have on reading ability, so we shall discuss them at length in Chapter XI.

Perception. Congenital Word-blindness—Congenital word-blindness is a neurological entity since it was named by Kussmaul in 1877. It is usually described as a pronounced inability to learn to read, not because of defective intelligence, lack of training, or sensory or motor defects, but because the child apparently cannot form associations between the printed word and its sound or its meaning.

The classic monograph on the condition was published by Hinshelwood (1917), who feels that the term "should be reserved for the really grave degrees of this defect, which manifestly are the result of a pathological condition of the visual memory center, and which

have proved refractory to all the *ordinary*¹ methods of school instruction." The pathological condition referred to occurs in the cortex in the supra-marginal and angular gyri of the left parietal lobe in right-handed persons. Such pathology has been found in secondary or acquired alexia, and reasoning by analogy is supposed to exist in the so-called congenital form, although there seems to be a complete lack of autopsy records confirming the supposition. Tilney and Riley (1921), in their outstanding summary of neurology, were unable to cite any cases which could be considered to afford crucial evidence that such localized pathology was basic to difficulties in reading, spelling or any other such functions. Wallin (1924) argues somewhat sarcastically that lack of evidence is no proof, and he is undoubtedly right; but he goes further and argues in favor of a neurological basis because "there must be some explanation, other than vague hypothetical mental maladjustments or malassociations, for reading disabilities which do not respond to *any* method of teaching reading, or which yield only in a *limited fashion*¹ after arduous trial." We cannot enter a prolonged discussion of the reasons why the neural pathology arguments are not sound. However, the modern work of Lashley (1929) would appear to afford neurological evidence against any theory which requires circumscribed lesions.

From our point of view there appears to be even stronger evidence. In the above quotations from Hinshelwood and from Wallin, the reader will note that the present author has italicized the word "ordinary" in the former, and "any" and "limited fashion" in the latter. In regard to the use of the word "ordinary," we can only say that an unusual condition probably requires unusual measures to correct it. Wallin's use of the phrases, "any method of teaching reading" and "limited fashion," was unwise, as we shall show presently. Proof lies in the results of several workers who have made extreme reading disability their special province. By an intensive visual method, Gates (1922a) taught three children in his group who had been diagnosed by ophthalmologists as word-blind. Lord (1925) also found an ordinary attack through visual memory to be successful with her case. Schmitt (1918) found an especially complete phonic method to be successful, while Fernald and Keller (1921) secured excellent results with a kinesthetic method involving vocal articulation and arm

¹ Italics the present author's

writing movements. The following case from Wooley and Ferris (1923) illustrates the correction of a so-called word-blind boy.

Case Number 17. (The first paragraph is condensed from the published report) On his first examination, at the age of 10-4, David had a Binet MA of 9-10, I.Q. 95. Physical condition good, slight visual defect not requiring correction, right eardrum lost at age of four years. Family conditions fair, although father had deserted. Mother supported the family of four children. David had spent three years in the first grade and was then promoted to the second "because it seemed cruel to keep him another year in the first grade." At this promotion he did not know words, letters or the number combinations above ten. Between May, 1918, and September, 1920, he went to a special observation class and to an oral class where a great deal of attention was directed toward his reading.

David's second examination was given in September, 1920, when he was twelve years and ten months old. This time his mental age, according to the Stanford test, was eleven years and his intelligence quotient 86. On graded opposites he had a ten-and-one-half-year record. No other supplementary tests were given except educational ones. The examiner felt that the fall in intelligence quotient from 95 to 86 need not be interpreted as a lowering of the level of intelligence, but rather as the effect of his enormous handicap in not being able to acquire what other children do through reading, or to use reading and writing as a tool in dealing with increasingly difficult processes.

David's test in reading was a disappointment. It was no better than that of the average six-year-old who has been in school about four or five months. In the first paragraph of Gray's oral reading test he failed to recognize "boy," "had," "the," "into," and "ran." The only words he could spell correctly were those of the "at" family, and the word "man." Even the "at" family was not a certain possession. The word "rat" he wrote correctly the first time, but when it was dictated a second time he wrote "rut." For "can" he wrote "cmon"; for "tan," "tom", for "fan," "pom", and for "pan," "thsn." For "it" he wrote "te."

His arithmetic was better. He was given the Woody tests in addition and subtraction, and made third- and fourth-grade records, respectively.

At about the same time David was examined by our psychiatrist, Doctor Fell. He found nothing abnormal about the boy so far as reflexes and muscular coordinations were concerned. There were no stigmata, and his glands and organs were normal. A slight deafness

was noted, but insufficient to account for his difficulty. Doctor Fell's diagnosis was "Sensory aphasia, involving mostly visual memory. Evidently a lesion, but would require complete study to work out relative importance of visual and auditory elements"

In our tests there were more evidences of defects of auditory than of visual memory His reproduction of the drawings in year ten was perfect, and he performed the memory portion of the substitution test normally for his years. His immediate auditory memory, however, was defective When the material to be remembered was not arbitrary symbols, but the content of a story, his auditory memory seemed good The real failure seemed to be in the ability to form associations between visual symbols and sounds

In thinking over the possibilities for David for the coming year it suddenly occurred to several of us that there was one untried and promising possibility left for him in our schools, and that was the school for the blind In Braille we had at hand a process of reading in which the visual elements were entirely excluded It was possible that he could form normal associations between touch impressions and heard or spoken words when he could not form the corresponding associations with visual impressions. When Miss Lawes, principal of the school for the blind, was consulted, she was enthusiastic about trying the experiment.

Just as we had the matter of the transfer of schools arranged, David arrived one morning with a note from his mother saying that the family had decided to move to Columbus the following week We were all exceedingly disappointed at this sudden end to our part of the thrilling experiment of finding some way to teach David to read, but decided at once to transfer it to colleagues in Columbus We wrote a complete report of our experiences to Mr. Collicott, the superintendent of schools in Columbus, and asked him to be on the lookout for David when he enrolled Toward the end of October letters from Columbus told us that David was found, and that Doctor C C McCracken, of the University of Ohio, and Doctor Goddard, of the State Bureau of Juvenile Research, were holding conferences about him and planning to allow some of the graduate students of the university to work with him In November, Doctor McCracken wrote us that David's family had returned to Cincinnati, and not long afterward David reappeared at the oral school

By this time Miss Ferris had secured some typewriters for her class, and another boy of about David's age had been enrolled Miss Ferris begged to have David returned to her for one more attempt before we resorted to the school for the blind. She started David and the

new boy together, using the typewriter as the chief instrument of learning. The second boy, Frank, was a hunchback, a little older than David, who had never been sent to school because of his physical condition. Treatment had finally put him into condition sufficiently good for school attendance. He impressed his teachers as normal mentally, but his intelligence quotient was only 79. He and David worked together, learning first the fingering on the typewriter. Then they committed to memory Bayard Taylor's "A night with a wolf," and read each stanza, using the word-finding method. Meanwhile, they worked at the mastery of the alphabet. Frank could call the alphabet by rote, but did not know the letters by sight. David could find many of the letters, using the small word builders. Together they patiently built up the alphabet and destroyed it time after time. David seemed to learn both the letters of the alphabet and the words of the poem. At least he could find the words and letters on the board. For a time Miss Ferris thought she was succeeding, but after about five weeks it was evident that while Frank was really learning to read, David, with the same methods and an application fully as good, was not. The apparent wave of progress subsided. Tested on a list of common words, such as "who" and "was," David was baffled and helpless. Miss Ferris then recommended the transfer to school for the blind, which took place early in February, 1921. Frank remained with Miss Ferris and by June had completed first- and second-grade work.

Several conferences were held with Miss Lawes during which she was made thoroughly familiar with David's history, and given copies of our various examinations and reports. Miss Burdge, the teacher who was to instruct him, also studied the records carefully and visited his home to explain the new experiment to his family. She found his mother eager to help. A series of photographs of David, from infancy down, impressed Miss Burdge very painfully with the gradual change in the child's expression from the unconscious happiness and sweet temper of his young childhood to the unhappy, baffled, brooding, discontented sense of failure—failure in spite of all his efforts and application—revealed in his later pictures and in his daily expression. Like all his other teachers she swore inwardly that she would teach David to read if there were any possible way of doing it.

The process of learning to read through his fingers rather than through his eyes was carefully explained to David, and he was told to keep his eyes off his work. He understood and complied with the instructions absolutely. To our joy he learned the Braille alphabet with normal speed. At the end of three weeks he had not only mastered

the alphabet but was able to write simple sentences in Braille without error. Miss Burdge brought us samples of his work. At the end of a month his teachers made the interesting discovery that while he had conscientiously learned the Braille without the use of his eyes he was able to read it with his eyes as well as with his fingers. Meanwhile, he seemed to have no confusions about the Braille letters, wrote his simple sentences without errors, and seemed to be able to remember his families of words from day to day, a feat previously impossible to him. Upon making this discovery, his teachers decided (in my judgment prematurely) that there was no point in continuing with the Braille. If he could learn one set of symbols visually, they argued, he could another. Accordingly, they abandoned the Braille, and returned once more to the attack on print. The fact that David seemed to read more confidently from the very large-type books prepared for the classes in conservation of vision than from ordinary sized type led Miss Lawes to send him to the oculist of the school, Doctor Stricker, for a reexamination. The doctor discovered a defect which he thought worth correcting, and David began at once to wear the glasses.

After one more month in the class, early in April, 1921, Miss Burdge brought David in to show us his progress. He read from a primer with some help. In the first paragraph of Gray's oral reading test four words had to be supplied—"woods," "wanted," "without," and "began." "After" he called "from"—obviously guessing from context. The paragraph took him over a minute. He then wrote sentences from dictation. The first one was, "The little boy can run." David wrote it without the word little, but when he was asked to read it, read it three times with the word "little" in it. Finally, by making him point carefully to each word Miss Burdge led him to discover his mistake. He then wrote from dictation: "A big dog can play"; "Baby likes to play"; and "Baby can roll the ball." Then, at Miss Burdge's suggestion that he write some sentence about a bird, he wrote, "The bird can fly to the nest"; but the word "nest" he wrote "tesn," and corrected it only after suggestion. The concentrated effort required to write these sentences would be hard to find excelled. It seemed to us, as we looked on, that the child was entangled in a mesh of confusions, bad habits, and misunderstandings acquired during his seven years of fruitless effort. It was as though he had never before grasped the idea that each little black word on the printed page had a distinct individuality and a meaning. Guessing, trying to supply words from context, and memorizing had become to him essential parts of reading. Apparently no conception of the definite-

ness and precision of reading had before crossed his mind. His task was not merely to learn the new but to get rid of most of the old.

By June we felt convinced that David really could be taught to read. He then knew 100 words by sight, confidently, and without the help of context. The result had been accomplished in spite of the fact that during the spring he was out of school five weeks with whooping cough. In order that he might not lose during the summer, we arranged to have him join Miss Burdge's summer class and go on with his instruction. Toward the end of July, David suddenly disappeared from school. When Miss Burdge went to find out why, she discovered that his mother had suddenly died. The poor woman had worked on, ill but uncomplaining, until she had literally dropped in her tracks without asking for aid. An uncle of David's from a neighboring town came and took the family home with him. The town is a small one where there are no special facilities for dealing with problem children. David's uncle and aunt have an understanding of his peculiar difficulties and wish him to continue in our schools. We hope the arrangement is now made to have David live in one of the home-like children's institutions of the city while he attends school next year (August, 1921).

The explanation of the fact that learning Braille gave David his real start in mastering print is by no means obvious. In observing the process, it seemed as though starting to learn to read all over again, with a completely new set of letter symbols, was what turned the trick. The new symbols he succeeded in learning without confusion, and with a real understanding of what he was doing as he went along. The process gave him his first clear conception of what reading meant and he was then able to translate into the old printed symbols, but with great difficulty because the old symbols were already a mass of confusions. It is probable, however, that the explanation goes deeper than this. It may be that the tactual motor type of image necessary in learning the Braille was a type for which it was possible to form normal auditory and motor associations, whereas it was not possible starting with visual images. The pathways in his association tracks leading to auditory centers may be open for tactual motor cues, but not for visual ones directly. The learning of Braille may have given him control of a new type of word and letter image, into which he is learning to translate the visual perceptions before they become cues for speech or writing.

In a letter dated February 27, 1936, Doctor Wooley writes, "After his short course of Braille, the boy learned to read normally. He rapidly made up the three years which he had lost in the first grade,

and finished elementary school at the customary age of about fourteen years. In high school he entered a preparatory course for engineering. . . . The boy finished high school well and won a scholarship in the College of Engineering."

Scheidemann (1931), who apparently blindly follows Wallin in holding dyslexia to be due to neural pathology, describes a case of word-blindness who was taught to read English by introducing him to French and German after other methods had failed. Even Hinshelwood believes that by special methods these children can be taught to read. The evidence from these studies definitely suggests that special teaching methods are successful in retraining the "congenitally word-blind" and that the success is not in a "limited fashion."

The incidence of this condition is not high. Hinshelwood could report only 31 cases encountered in fifteen years. Wallin (1924) reports 4.48 per cent of 21,168 school clinic cases in St. Louis. C. J. Thomas (1905) calculated there was only one case among 2000 boys in the London schools, while Waiburg (1911) found fourteen cases among 2000 children in the regular schools of Cologne. Schmitt (1918) found fifteen cases diagnosed as congenitally word-blind among a population of 42,900 pupils in 50 schools. Gates (1935) says he has never found a case that was best described as "word-blindness," although he had studied reading in over 13,000 children. The extreme contrast in these figures suggests that there is no standard diagnosis for this condition. In fact, we may agree with Freeman (1920), who feels we are "justified in raising a serious question whether there is such a thing as specific congenital word-blindness or alexia"

In summary, we may grant that there are a small number of children who exhibit a severe reading disability characterized by a lack of association between the printed word and its sound or meaning. Regardless of the severity of such conditions, experience and wisdom would indicate that labeling such children as congenitally word-blind is a futile gesture, but that ingenuity in teaching may resolve the difficulty. Because of the necessity of unique methods we cannot well describe them here but shall refer those interested to the works cited.

Inadequate Perceptions.—Perception may be defined as an interpretative interaction with a stimulus function. Stimulus functions are not, however, necessary and characteristic attributes of objects. Rather their connection with objects is a result of training and ex-

perience For illustration let us take the simple three-letter word "tap" as a stimulus object. For the Chinese ignorant of the Roman alphabet, perception is limited to black marks on white paper in a certain shape. With knowledge only of the Roman alphabet, but none of any language using it, the perception might be of the individual letters "t," "a," and "p," plus possibly an interpretation that in this configuration they make a word Present this same stimulus object to different American children and one soon finds that many stimulus functions may be present. A child who is learning to read and who has just learned to experiment with new letter combinations may first analyze it into letters; perhaps more or less accurate attempts to pronounce it are made, and soon this object is reacted to, i.e., perceived, as one of those many objects that may be pronounced—this particular one in the fashion t ā p At this stage there may be no other stimulus function in the word-object for this child. With increasing experience, when the object is met in various contexts and so on, one, two, or more further stimulus functions inhere in the stimulus object "tap," and perception of one of these will depend upon the stimulus situation Thus, meanings are stimulus functions of words. For different people, or for the same person at different times, this simple stimulus object "tap" may mean and be reacted to as meaning a slight blow, to strike such a blow, a faucet or spigot, a nut for a bolt, shoe-sole repair, a barroom, a branch of an electric circuit, to make such a branch, to lead away or draw off, to open a means of drawing off, a tool for cutting screw threads, a form of dance, to Yale men the ceremony of selecting for the senior societies, and perhaps further meanings in more provincial use.

This apparent digression is actually in point because it introduces a serious cause of reading difficulties both in the mechanics and, perhaps more serious, in the comprehension of reading. To perceive a word as anything other than merely black marks, requires learning. For the two-year-old no word has a stimulus function distinct from that shown by any similar contrast of black and white, or other color combination Even the interaction with a word as a word must be learned. The lack of such learning appears to be really basic to the condition we have just described as congenital word-blindness.

While we cannot enter into an explanation of methods of teaching reading, we may point out that two extreme methods have been used. The earlier extreme was the strictly analytic method of teaching first

the alphabet, then spelling, and thence to reading words as units. The other extreme disregarded any analysis and taught reading by whole-word perception. Neither method is completely good or completely bad. Modern methods argue and teach that basic words should be learned as units with not too much attention to analysis, but that analyzing is necessary for the child in coping with new words appearing in his reading. Thus, perceptual confusion is fairly easy between pairs of words such as "made" and "mad," "saw" and "was," "the" and "they", but analytic attention to the differences between these words when the child is first introduced to them reduces the possibility of such confusion. On the other hand, perceptual confusion between "boy" and "pachyderm" is hardly to be expected, but analysis into syllables, at least, makes possible a fairer conception of the latter word.

Training—Thus we are introduced to training and experience as factors in producing reading difficulties. The causes we have earlier discussed are directly related to poor reading mechanics, as are those we are about to discuss. However, this latter group may also be directly related to lack of comprehension in reading.

The following list of ten factors in training and experience, while not always mutually exclusive, represents those of sufficient importance to warrant special attention in diagnosis.

1. Inadequate Training in Visual Perception of Words.—This may be due to a too great emphasis on either of the extreme teaching methods mentioned earlier, or to unsuccessful attempts to use an intermediate method. The child may spend too much time spelling or otherwise analyzing words, and so lose the meaning of the whole context. On the other hand, too facile whole-word perception may result in the child's searching new material for familiar words and neglecting the unfamiliar ones (Gates, 1922a). Also to be considered here is an inefficient perception span, i.e., not sufficient material perceived at each pause in the eye movement across the line. Gray (1922) points out that both reading rate and comprehension are positively correlated with the length of the span of perception.

2. Inadequate Analytical Training.—Complete lack of analytics, i.e., extreme emphasis on whole-word perception, would logically be included here. However, more to be emphasized are the results of phonic training which places correct pronunciation above clear

understanding, or which leads to a superficial exactitude. Such methods may result in the child's paying too much attention to detail, and his developing narrow perceptual spans because of attention to such details. Also, the change from one analytic method to another may cause inhibitions and confusion.

3. **Methods and Materials of Instruction**—This includes the inappropriate methods mentioned above, as well as certain aspects of some of the following points. The ordinary classroom methods successful with the majority of students may be entirely unsuccessful with individual cases, but in the pressure of work no special methods are tried. In some cases reading disability may date to an attempt to teach the child from material that was too difficult, and because of this, a lack of interest or even antagonism may have arisen. While it is possible that teaching methods and materials may be important etiologic factors in some cases, they are probably of greatest importance in relation to the teacher.

4. **Teacher's Ability and Influence**—Evidently the preceding three factors are wholly, or in part, dependent upon the teacher's training for, and ability in, teaching reading. Taylor (1928) concluded, from a study of the reading achievement of children during single terms from the 4B to 8A grades, that the teacher's ability shows no effect in a single term. He also points out that in the ordinary course of events a child experiences several types of teachers during several terms. This would suggest that the influence of an individual teacher is negligible. Even granting that this one study will be substantiated by other researches, it is evident that by the fourth grade most children have formed the all-important early habits. The crucial time when the teacher probably plays an extremely important part is in the first and second grades during the child's first introduction to this new process of reading. We have examined children referred to the Indiana University Psychological Clinics because of reading difficulties, whose history and subsequent improvement point to the lack of skill, or impatience of a first-grade teacher as the outstanding etiologic factor in their problem.

5. **School Attendance**.—Regularity of school attendance apparently shows no relation to reading achievement. Theisen (1924) and Terman (1925) both report a correlation of practically zero between the two variables, and Anderson and Kelly (1931) found no significant differences between cases of reading disabilities and their controls in

amount of training, age of entering school, or number of school changes. Theisen does suggest that excessive absence, e.g., over two months per year, may be a significant factor. However true these findings may be for groups, there can be no question that absence may be important in individual cases. Thus Gates (1922a) had one child whose difficulty seemed to date from a four-month absence in grade two during the time the class was being introduced to a new step in the reading process. Changing schools may be serious, not only because it introduces problems of social readjustment, but also because it may mean a change in teaching methods to which the child may have difficulty in adapting.

6. Unfavorable Reading Experience at Home.—Troubles may arise from the child's reading experiences in the home. For example, parents anticipate the formal teaching of the school and attempt to teach the child some fundamentals of reading at home. If the parents are adequately trained, there can be no objection to this. There is probably no serious objection if, even by unorthodox methods, the child has built adequate preliminary reading habits before attempting school. But as relatively few parents, even those who may be otherwise well educated, have adequate training, the usual outcome of such attempts is confusion when the child starts school. The result is either the necessity of practically relearning the process or the development of a reading disability.

In contrast to such active interest in teaching the child to read are the evils of reading too much to him, or of failing completely to stimulate him toward any reading interest. Perhaps the latter of these is somewhat less serious because the school then has a free hand to develop reading interests and skills. In the former, however, the child learns to enjoy the stories read to him, and he may see little or no point in going to the labor of reading himself so long as someone else is willing to do it.

7. Unfavorable Home Conditions.—There has apparently been no demonstration that the socio-economic condition of the home has any relation to reading except as it may have a relationship to general ability. However, in the case of homes of the lower socio-economic groups we might well expect a lack of stimulation toward reading or even an antagonism toward it. Other unfavorable home influences may be found in attitudes. Thus, in one of our clinic cases there seemed to be no doubt that the boy's reading difficulties originated with

the unsatisfactory methods and attitude of his first-grade teacher; but there was likewise no doubt that the continuance of his difficulty was fostered by his father's well-meant nagging and unfavorable comparison with a younger brother.

8. Foreign Language.—The personal experience of most readers of this book will indicate to them the difficulties that the child must have who is forced to think in a strange language, or who must use one language at home and another at school. Where this is necessary, children usually reach a compromise and use neither language very well. W. S. Gray (1918), O'Hern (1919) and Kirkpatrick (1926), among others, have found that the reading achievement of children from foreign homes is lower than that of children from English-speaking homes.

9. Amount of Reading and Interest in Reading.—Each of these would seem to be the criterion of the other; i.e., the child who reads a good deal is evidently interested in reading and, vice versa, the child who is interested in reading will read a good deal. It would be interesting to study the relation, using some other criteria of interest in reading, but it does not seem to have been done. From correlations based on a very small group, Lipscomb (1931) concluded that reading ability was of greater importance than intelligence in determining the quantity of outside reading. That there is a relation between reading ability and amount of reading is also suggested by Zirbes' (1918) correlation of .53 between reading rate and number of books read at home. These particular factors are probably not so important in relation to reading disability itself as they are in relation to other academic disabilities that depend upon reading.

10. Vocabulary.—Wide reading increases the vocabulary but, in turn, a large vocabulary makes possible the wide reading. Even for the small child first learning to read, the major problem is that of increasing the number of words to which he can react. Therefore, all those things which hinder the development of visual perceptual habits in reading also tend to limit vocabulary. Monroe's (1932) controls had better vocabularies than her cases of reading disability, although the lack was more likely a result of the disability than a cause of it. Goodenough (1925) found the surprisingly high correlation of .79 between vocabulary score on the Binet and the reading section of the Stanford Achievement tests when C.A. was held constant.

DIAGNOSIS

Our review of possible causes suggests the information necessary for diagnostic purposes. The following outline presents a suggested procedure for the examination of cases of reading disability:

1. Psychological examination
 - a intelligence
 - b perception
- 2 Physical examination
 - a. general health
 - b visual
 - c. special (auditory, motor, neurological)
3. Educational history
 - a general
 - b. absence
 - c. change of school and teachers
 - d history of reading
4. Family history
 - a socio-economic
 - b. attitude toward child's reading
 - c. language used in home
5. Reading examination
 - a. observation of oral reading
 - b formal reading tests

As we have already considered general examination methods at some length, it is not necessary to consider each of these in detail. Intelligence will be determined by tests; but too much dependence cannot be placed on verbal tests because performance may be affected by reading disability. Perception should be investigated for word recognition and perception span.

reading. A child with an I Q of 80 to 90 who starts school at the age of six is not yet able to profit much from reading instruction, and in such circumstances he may be promoted without adequate groundwork. A history of extreme absence, of frequent changing of schools or methods, may help to explain the child's present difficulty. The history of the child's reading experiences will include methods used to teach him, and his own interest in reading.

The family history should include some evidence of the socio-economic position, especially as it may relate to the opportunities for stimulation toward reading at home. Parental attitudes toward the child's reading may include indifference, negative interest shown at times by attempts to keep the child from reading, or positive interests shown by attempts to teach, by wholesome stimulation of the child's interest in reading himself, or by too extensive reading to the child. Information on the use of foreign language in the home is, of course, important.

The information secured from an examination including all of the above enables the clinician to discover possible etiologic factors and, therefore, corrective measures to be taken which are not directed toward the reading itself. Remedial training requires further knowledge concerning the exact nature of the reading difficulty; this may be secured by a specific reading examination. Such examinations may use informal tests of reading, or formal standardized tests. The survey type of achievement test is of little use for diagnosis of specific disabilities as it is intended to give only a level of achievement.

Perhaps the most complete diagnostic system for studying reading is that developed by Gates (1935). We reproduce the outline of his diagnostic scheme,² but must refer the reader to his manual for elaboration of methods both diagnostic and remedial.

I Tests and diagnoses of reading attainments.

1. Word recognition
2. Sentence reading
3. Silent paragraph reading—various types examined separately for
 - a. Speed
 - b. Accuracy
 - c. Level or power
4. Oral reading

² Reprinted from Gates, *The Improvement of Reading*. By permission of The Macmillan Company, publishers.

- II. Techniques of reading context
 - 1 Objective devices and observation of use of context clues, word-form clues, phonetic devices, etc., in oral reading
- III Techniques of working out recognition and pronunciation of isolated words
 - 1 Objective records and observations of methods of attack upon unfamiliar words
- IV Perceptual orientation and directional habits in reading context and isolated words:
 - 1 Objective records and observations of reversal tendencies, omissions of words, failures to observe various parts of words, dependence on general configuration, etc
- V Inventory of visual perception techniques Tests or examinations for.
 - 1 Ability to work out phonogram combinations
 2. Recognition of various types of word elements, as
 - a Initial-vowel syllables
 - b. Initial-consonant syllables
 - c Vowel-consonant phonograms
 - d Vowel phonograms
 - e Consonant-vowel phonograms
 - 3 Ability to blend given letters and phonograms into words
 - 4 Ability to sound individual vowels
 - 5 Ability to name individual letters
- VI Inventory of auditory perception techniques, tests or examinations for
 - 1 Ability to spell spoken words and techniques used
 - 2 Ability to write words as spelled
 - 3 Ability to blend letter sounds into words
 - 4 Ability to name letters when sound is given
 - 5 Ability to give words with a prescribed initial sound
 - 6 Ability to give words with a prescribed final sound
- VII Various constitutional and psychological factors
 - 1 Visual perception Speed and accuracy of visual recognition and discrimination of various materials
 2. Vision Tests of visual acuity, eye dominance, muscular coordination, etc.
 - 3 Auditory acuity and discrimination
 4. General intelligence
 - 5 Memory span
 - 6 Associative learning

7. Muscular coordination, handedness, relation of dominant eye and dominant hand, etc
- 8 Emotional stability, etc

VIII. Educational background and environmental influences.

1. Home conditions; language spoken, attitude toward reading difficulty, etc
2. School conditions; educational progress, methods of teaching, etc.
- 3 Personal relationships child-parent, parent-teacher, teacher-child; pupil's attitude toward school and reading, brothers and sisters, etc.

IX. Motivation Reading viewed in its relation to desires, thwartings, purposes

REMEDIAL TREATMENT

If diagnostic study of a case of reading disability indicates physical or intellectual defects these must be corrected if possible. As we yet know of no way to correct an intellectual defect in such cases, the psychochinician's recommendation must be limited to pointing out the probable amount of achievement to be expected, and perhaps making suggestions concerning management of the training.

In those cases where uncorrectable physical or mental defects are not present, remedial treatment may be undertaken with reasonable assurance of improvement. The teaching technics to be employed follow those used for teaching reading under any circumstances. However, the teacher's attention should be directed primarily to those specific difficulties found in the examination, e.g., in word recognition, paragraph comprehension, and so on.

As children who have not learned to read often show discouragement and lack of interest in reading, the teacher's first task is to develop in the child a desire to learn reading. Gates suggests as means to this end that the materials used be easy and intrinsically interesting, that encouragement be freely given, that the child should know, and follow, an objective record of his own improvement, that the remedial lesson be given at a time that will not arouse antagonism (e.g., it should not be given after school hours), and that the necessary practice and drill be so distributed that it does not become dull and boring. The type of material to be used in remedial cases, especially with older children, must be carefully selected. To ask the child in the fifth grade to read a first or second reader may well be embarrass-

ing to him, and will certainly be uninteresting. Rather than formal readers, books of simple yet interesting stories should be selected. In short, patient sympathy and ingenious stimulation on the part of the teacher will solve many of the problems.

Description of the available teaching technics and materials cannot be given here. In most cases the classroom teacher who is properly trained can adequately handle the special work with the child. Teachers or others who undertake this type of remedial work should read carefully some of the published case material as well as text discussion of the problem. Gates' (1935) book, already referred to, is the most useful manual on the diagnosis and treatment of reading disabilities.

SPELLING

When one considers the absurdities of English orthography it is not at all remarkable that many children exhibit a lack of achievement equivalent to a serious disability. It is not infrequent to find successful adults having difficulty with spelling. Bronner (1917) minimized the seriousness of spelling difficulties when she said, "It is quite generally recognized that individuals differ widely in their ability to master this subject [spelling]. All writers on the question have agreed that many persons well educated are unable to spell correctly." However, the close relation between spelling and the mechanics of reading on the one hand, and writing on the other, makes necessary an adequate ability in this subject. We do no violence to the facts when we say that as the rules of spelling are so loaded with exceptions it is probably easier and more economical to master spelling by memorizing each individual word. This is not so impossible a task as may at first appear because the majority of words in ordinary use in correspondence, newspapers, magazines, fiction, and such widely read material are repeated so often that a relatively short list forms the average adult's working vocabulary.

This has been shown in a number of studies, of which that by Andersen (1921) is a typical example. This investigator analyzed 3723 letters written by adults engaged in some 35 different occupations in various parts of the State of Iowa. In these letters there were only 9223 different words, but there was a total of 361,184 running words. When arranged in order of frequency of occurrence, the first fourteen words constituted 25 per cent of the total, the first 77 made up 50 per

claim to completeness, but it is an unselected sampling. A summary of the data may be given as follows:

| Decade | Number |
|------------|--------|
| 00-09 | 1 |
| 10-19 | 2 |
| 20-29 | 3 |
| 30-39 | 5 |
| 40-49 | 4 |
| 50-59 | 5 |
| 60-69 | 7 |
| 70-79 | 3 |
| 80-89 | 2 |
| median r | 51 |
| mean r | 49 |

Evidently there is a greater variability in these correlations than in those reported for reading. However, there can be no doubt that spelling is not as closely related to intelligence as is reading—this in part because reading and spelling are both parts of a general language ability. But as we have pointed out, spelling is perhaps more closely related to the mechanics of reading, and this in turn is less closely related to intelligence than reading comprehension. The low correlation here reported is probably due in large measure to the nature of the process necessary in learning spelling. Learning to spell requires, all other things being equal, drill and repeated drill on nearly every word. Just this sort of mechanical drill appears to be suitable for those children with low intelligence; therefore, they may show a high achievement. On the other hand, the superior child is apt not to be willing to spend a great deal of time in drill, but attempts to generalize from past experience, with the result that he makes errors and thus reduces achievement. Direct support for a thesis of this sort is found in a study by Carroll (1930). In a study of the errors in spelling made by experimental groups of bright and dull children he found that the bright children made a higher percentage of one-letter errors, while the dull children made a higher percentage of group errors. Furthermore, the bright children were more likely to spell words phonetically. Carroll concluded that the “psychological explanation of each of these differences appears to be in the marked superiority of the bright over the dull in phonetic generalization ability.” In spite of the apparent disproportionately high achievement of the duller child, and the disproportionately low achievement of the brighter child, low intelligence must always be eliminated as a factor in spelling difficulties in the course of clinical study.

TABLE XXVIII—SUMMARY OF CORRELATIONS BETWEEN INTELLIGENCE AND SPELLING

| Source | Intelligence | Spelling | No of Cases | Description | r |
|------------------------------|-----------------|------------------------------|--|---|--|
| Bird (1920) | Composite group | Ayres Ayres sentence | 60 60 | Gr IV-VIII | 29 26 |
| Burt (1922) | Binet | Own test | 689 | Ages 7-14 years | 52 |
| Garrison and Garrison (1929) | Binet M A | Ayres | 67 124 127 192 164 231 170 54 | Gr II Gr III Gr IV Gr V Gr VI Gr VII Gr VIII Gr IX | 73 68 62 64 58 52 43 39 |
| Gates (1922a) | Binet M A | Composite test score | c 20 c 20 c 20 c 20 | Children with median I Q 116 Gr III Gr IV Gr V Gr VI | 32 12 37 45 |
| Gates (1922) | Composite group | Composite test score | c 20 | Gr III | 56 |
| | Binet M A | | c 100 | Gr IV-VIII | 31 |
| Gates and La Salle (1923) | National | Ayres | 75 | Gr III-VI 1920 " " 1921 | 85 82 |
| | Binet M A | | | " " 1920 " " 1921 | 60 62 |
| Hollingsworth (1918) | Binet I Q | Modified Ayres | 13 14 9 23 | Ages 9-12 years 8-13 " 9-13 " 8-13 | 24 08 42 21 |
| Houser (1915) | Binet | Own test | 44 36 39 35 32 | Gr IV Gr V Gr VI Gr VII Gr VIII | 71 60 35 49 51 |
| Porteus (1912) | Binet | Educational attainment scale | 32 26 | Feeble-minded in institution | boys 78 girls 68 |

Visual Defects—Visual defects play the same part here as they do in reading; in fact, the child whose reading is poor because of diplopia, loss of acuity, or unsatisfactory visual perception will inevitably have difficulty with spelling, at least in so far as he must learn the letter sequences from the written or printed word. However, as spelling is more really based on auditory vision is not of as great

Auditory Defects—As spelling in the classroom is usually a matter of writing from dictation, the necessity for a normal auditory mechanism is evident. Of course the child's usual introduction to the spelling of a word is through copying it from a book or the blackboard. As a rule, this method is used for the most common words and before

spelling is presented as an independent subject. While English orthography is not phonetic, the emphasized associations are between the sound of the word and the motor act of writing it. Even when copying from printed material the child pronounces words to himself. This being true, there are three ways in which difficulties may arise. First, the teacher may mispronounce a word or pronounce it with a provincial accent; the child spells as he hears it. Secondly, an auditory loss results in the child's not hearing the sounds clearly and spelling as he hears. Thirdly, as a result of the first two the child learns the incorrect pronunciation, and later when writing spontaneously he spells according to this incorrect pronunciation. Clinical examination must include efforts to discover possible auditory defects and erroneous pronunciation.

Motor Defects—These may be divided into defects in vocal articulation and lack of writing coordination.

The child with an articulatory speech difficulty will pronounce words incorrectly. This situation is analogous to the case of the child who has learned an incorrect pronunciation, and the result in spelling may be the same. Clinical procedures in connection with speech defects will be discussed in Chapter XI.

Inasmuch as spelling is predominantly used in writing, it is evident that the child must have adequate writing habits. Lack of these may be due to an organic condition such as spasticity or athetosis, or they may be due to inadequately developed motor habits. In the latter case they can, of course, be corrected by further practice.

Memory—One behavioral characteristic developing with age and which apparently cannot be much increased by training, yet which is of the greatest importance in all memorization, has been called memory span. This span is defined as the largest number of letters, figures, or simple sounds which can be correctly repeated after only one hearing. The growth of this ability may be indicated by the digits-forward tests from the Stanford-Binet, where the arrangement is as follows.

| Year | Digits |
|----------------|--------|
| III | 3 |
| IV | 4 |
| VII | 5 |
| X | 6 |
| XIV | 7 |
| Superior Adult | 8 |

Other things being equal, the longer the memory span, the fewer the repetitions required to memorize a long series. Thus, the learning of a series of eight nonsense syllables will require fewer repetitions for a person with a memory span of six than for one with a span of only four. Inasmuch as spelling may be, for some children, equivalent to learning nonsense syllables, the factor of memory span is important. However, memory span and ease of memorizing are both greater with meaningful material. This indicates the value of the child's knowing something about the word before, or simultaneous with, his attempts to learn its spelling.

✓ *Habit Interferences*—Habits, no matter how well learned, may be interrupted, inhibited, or disorganized under certain conditions. In the case of spelling habits, one such interference may come from earlier habits built up in learning the spelling of a foreign language. While this may be infrequent, it indicates the need of learning something about foreign language experiences that the child has had. Another common source of disturbance is sometimes found in emotional or affective states. For example, being required to spell at the blackboard, in an examination, in a contest, or under direct scrutiny may introduce emotional tensions in some children that will interfere with their successful spelling unless the habits have been very strongly formed.

Another frequent condition is inability to spell a word aloud upon demand but perfect assurance in writing it correctly. Obviously the difficulty here is that stronger associations have been made with writing movements than with vocalization of the letter sequence.

Lapses and Idiosyncrasies—Hollingworth (1923) calls attention to these types of minor errors. Lapses comprise those frequent mistakes of omitting or adding a letter, made even by good spellers, which are immediately recognized as errors when pointed out. Idiosyncrasies are similar to lapses, and occur consistently in the spelling of some individuals who do not recognize them as errors. These mistakes can be corrected by simple retraining.

Temperamental Factors—That learning to spell may easily become a boring drill has been suggested several times. Some children of superior intelligence and those children who exhibit a general nervousness or instability of behavior may be unwilling or unable to apply themselves to the required drill. This will, of course, mean that the

necessary habits are not established; and this in turn will be shown by weakness in spelling.

DIAGNOSIS

Diagnostic examination of children who exhibit spelling disabilities should be directed to the discovery of causative factors. This requires examination of intelligence, vision, audition, and visual perception as for reading. The child's general stability of behavior and the methods of teaching him spelling are important. While there is no doubt that the only method of learning to spell is drill and yet more drill, this does not have to be formalized, it may be made interesting through reading or games and it must be fully motivated. The use of standardized spelling scales such as those of Ayres or Buckingham, or the Iowa Spelling Scale, will indicate not only the degree of achievement, but also the words or type of words misspelled.

Watson (1935), in a recent experimental study of the psychology and pedagogy of spelling, has outlined a diagnostic classification of poor spelling habits. The five groups specified are those relating to (1) syllabication, the pattern, differentiation and phonic values of syllables; (2) the establishment of new spellings, that is, the formation of basic associations between sound, spelling and printed appearance; (3) the transference to new words of learned spellings of common elements, which requires knowing the possible spellings of sound units and the use of certain sound rules in forming words, e g, doubling the final consonant before a suffix; (4) illegible handwriting; (5) motor acts resulting in lapses or idiosyncratic errors. Miss Watson advises that samples of the child's spelling be secured from themes, letters, or by use of a spelling list, and the errors found be classified according to her scheme.

As a supplement to errors found in written compositions and letters, Miss Watson has compiled the following list of words for diagnostic use in the seventh to twelfth grades. These words are to be dictated to the class, and misspelled words checked. No norms have been established, for the purpose of the list is not to measure achievement but to indicate the type of spelling errors which the subject shows. In a personal conference the examiner checks over the misspelled words to discover whether oral spellings are also incorrect, if the pronunciation is incorrect, or other possible reasons for the errors. This diagnostic list is obviously of value.

DICTATION-LIST FOR USE IN DIAGNOSIS

| | | |
|-------------------|-----------------|-----------------|
| 1 achievement | 34 commended | 68 enjoyment |
| 2 boyish | 35 flattering | 69 easily |
| 3 accompanied | 36 chieftain | 70 ratios |
| 4 ceiling | 37 echoes | 71 Negroes |
| 5 advancement | 38 daintiness | 72 movement |
| 6 educator | 39 deceit | 73 obliging |
| 7 cameos | 40 displayed | 74 preferred |
| 8 cargoes | 41 embryos | 75 happening |
| 9 changeable | 42 hopeful | 76 marvelous |
| 10 beginning | 43 deferred | 77 regrettable |
| 11 performance | 44 measurable | 78 troublesome |
| 12 gossiping | 45 reference | 79 requirements |
| 13 believing | 46 fiendishness | 80 peaceful |
| 14 conference | 47 employer | 81 potatoes |
| 15 transmitting | 48 portfolios | 82 scenarios |
| 16 conceited | 49 immediately | 83 funniest |
| 17 noticeable | 50 forbidden | 84 volcanoes |
| 18 attractiveness | 51 deceitful | 85 handkerchief |
| 19 buyer | 52 dutiful | 86 joyful |
| 20 cuckoos | 53 heroes | 87 tomatoes |
| 21 boundaries | 54 movable | 88 player |
| 22 advisable | 55 signaling | 89 loveliness |
| 23 compelled | 56 deceive | 90 merciful |
| 24 darkening | 57 earliest | 91 volleyed |
| 25 besiege | 58 weakening | 92 trios |
| 26 differed | 59 notable | 93 mischievous |
| 27 serviceable | 60 mosquitoes | 94 torpedoes |
| 28 engagement | 61 fiercely | 95 receive |
| 29 lovable | 62 enjoyable | 96 studios |
| 30 conceive | 63 occurrence | 97 priestly |
| 31 delayed | 64 management | 98 shampoos |
| 32 dominoes | 65 radios | 99 receiving |
| 33 cleanliness | 66 grievance | 100 perceived |
| | 67 perceive | |

REMEDIAL TREATMENT

The psychoclinician, having determined the possible cause for spelling deficiency, must recommend the necessary physical corrections and, if temperamental factors seem to be of importance, must outline a program for parents and school aimed at reducing the instability. Also suggestions may be made for using teaching methods suited to the intelligence and temperament of the particular child. Thus, for the bright child, attention to phonetic rules and their exceptions may be more successful than mechanical drill. For the unstable child smaller units of work and less formalized drill may be suitable. In general, the following suggestions may be useful:

1. Correct pronunciation of the word by teacher and pupil is of primary importance.

2. Correct visual perception is important, in fact, Gates (1922a)

says that incorrect perception of the word is "the most common type of difficulty"

3 Knowing the meaning of the word being spelled is an advantage

4 Longer words should be broken up into syllables and learning should be by syllables rather than by letters or haphazard division. This breaking-up takes advantage of the child's memory span

5 Emphasis should always be placed on writing the word rather than on reading the letter sequence.

6. The amount of repetition necessary to learn will vary for different children and for different words. Learning to the point of being able to write the word correctly once is not enough. Adequate learning is shown by ability to write the word correctly several times in succession and also after an interval of at least several hours

7 Time need not be spent on words completely memorized. Occasional reviews are helpful, but more time should be spent on learning difficult and doubtful words

HANDWRITING

In Figure 11 above, handwriting is shown to be intimately bound up with the whole complex of language activities. This association is accounted for by the fact that writing is used primarily to record letters, words, and digits on paper. Although the same sort of arm movements are used in writing and drawing, our present concern is with the motor habits necessary to the adequate formation of letters

Standards of writing are described in terms of speed and quality. The first is measured by the number of letters written per minute when the task is the repeated writing of a well-learned sentence for a period of two minutes. The second is measured by comparing the sample with a scale of handwriting quality such as that of Ayres (1915). The first of these measures is simple and objective. The second requires a subjective judgment on the part of the examiner, for the scale is composed of samples of writing with which few of the samples to be judged will exactly agree. However, after several hours' practice with the scale, especially with critical supervision by an expert, the results of an examiner's judgments appear to be reliable.

On the basis of these measurements, standards for various school grades have been suggested. For the sixth grade these average about 70 letters per minute, and for the eighth grade about 80. The average

Ayres score for quality is about 55 for the sixth grade and 65 for the eighth grade. There is evidence that these standards are probably higher than social or vocational requirements demand. Probably all social requirements would be met by speed and quality of 60, as suggested by Wilson and Hoke (1928)

Handwriting is basically a series of arm and hand movements associated with letter and word writing. Difficulties in writing consist in lack of the proper motor coordination required to form letters legibly and with acceptable speed. Freeman (1914) offers the analytic scale for judging writing defects, the causes responsible for them being shown in Table XXIX. Orton and Gillingham (1934) say that causes of special disability in writing may be divided into these groups: (1) those caused by motor difficulties, (2) those largely dependent upon apraxic factors, and (3) those arising from lack of visuo-kinesthetic association. The last two of these are held to be related to failure to develop a unilateral neural dominance.

TABLE XXIX —DEFECTS IN WRITING AND THEIR CAUSES

| Defect | Cause |
|-------------------------|---|
| 1 Too much slant | (1) Writing arm too near body (2) Thumb too stiff (3) Point of nib too far from fingers (4) Paper in wrong position (5) Stroke in wrong direction |
| 2 Writing too straight | (1) Arm too far from body (2) Fingers too near nib (3) Index finger alone guiding pen (4) Incorrect position of paper |
| 3 Writing too heavy | (1) Index finger pressing too heavily (2) Using wrong pen (3) Penholder too small in diameter |
| 4 Writing too light | (1) Pen held too obliquely or too straight (2) Eyelet of pen turned side (3) Penholder too large in diameter |
| 5 Writing too angular | (1) Thumb too stiff (2) Penholder too lightly held (3) Movement too slow |
| 6 Writing too irregular | (1) Lack of freedom of movement (2) Movement of hand too slow (3) Pen gripping (4) Incorrect or uncomfortable position |
| 7 Spacing too wide | (1) Pen progresses too fast to right (2) Too much lateral movement |

The mechanical nature of writing is further suggested by the correlations with intelligence. Table XXX presents a short list of published correlations. The median of these is at .08 and the mean at .13, so one

may take a coefficient of the order of .10 as representing the relationship between intelligence and writing ability

TABLE XXX—SUMMARY OF CORRELATIONS BETWEEN INTELLIGENCE AND HANDWRITING

| Source | Intelligence | Writing | No. of Cases | Description | r |
|---------------------------------|----------------------|----------------------------------|---|----------------------|------------|
| Bird (1920) | Composite group " | Rate Quality | 60 60 | Gr IV-VIII " | .41 .02 |
| Burt (1922) | Binet | Own test | | 7-14 years | .21 |
| Garrison and Garrison (1929) | National | Thorndike | Average of 11 correlations | | .37 |
| | Binet | " | Superior children, five grades with median I Q 112. Average r | | — .07 |
| Gates (1922) | Binet | Composite | 100 | Gr IV-VIII | .08 |
| Gates and LaSalle (1924) | Binet M A | Speed and quality combined | 78 | C A held constant | .01 |

Remedial instruction in writing is aimed at the formation of proper arm movements necessary to maintenance of a speed neither too slow nor too fast, to accurate formation of letters, to maintenance of uniformity in the slope of letters, and the like. What exercises are to be used must be decided in the light of the needs of each individual case.

Mirror Writing.—While writing problems in general are relatively infrequent in the psychological clinic, there is one peculiar form of abnormal writing that is of clinical interest. This is mirror writing, which is described as writing backward so that the script is readable in its mirror image. Figure 14, from the files of the Indiana University Psychological Clinic, is an example of the mirror writing of a twelve-year-old girl whose I Q. was 68.

The causes of the condition are still theories. Fuller (1916) summarizes them and mentions the following types of theory: the condition results from (1) faulty external motion of the arms, (2) bilateral cerebral localization, (3) disorder of a single special cerebral writing center, (4) disturbances of vision or the visual center, (5) difficulties in attention, imagery, etc. Carmichael and Cushman (1932), in their excellent summary of the literature, say that all such theories are un-

necessarily complex and too inclusive. These authors believe that many observers have been misled because they neglected to consider the ontogenesis of the condition. Their own view of the matter is expressed in two quotations "In fact, every observation upon the phenomenon points to the fact that it is a complex motor performance that has developed as a result of many apparently chance factors which were determined in the learning process of the individual under consideration"; and "It seems that the phenomenon of mirror writing is to be considered as an unusual motor and perceptual integration which is characteristic of children who are for the most part, but not all, left-handed writers, attributing

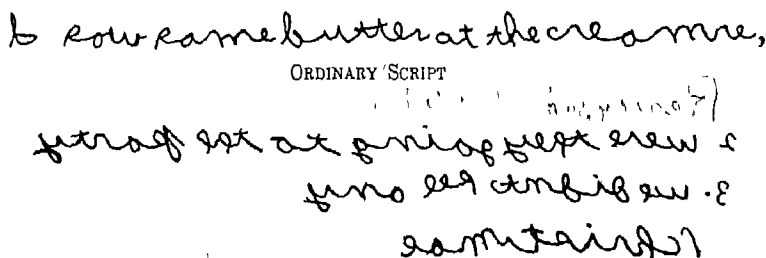


Figure 14—Mirror Writing (The first line is ordinary script written by the same subject)

the condition to the learning of a conventionally incorrect motor habit appears to be the most satisfactory theory.

It is of importance to note that mirror writers are generally left-handed but, as Carmichael points out, not always so. The condition is an infrequent one in any case. Beeley (1918) secured questionnaire returns from 103 schools on the question of handedness. In the 106,356 children included in these schools there were only 42 cases of mirror writing reported, a ratio of approximately one in 2500 school children. Gordon (1921), using actual writing tests with school children, found a higher proportion, approximately one in 200 children, while among feeble-minded children the proportion was almost seventeen times as large.

Remedial training must do more than merely draw the child's attention to the defect. The following plan may be followed in attempting to retrain the writing along the normal lines.

- 1 Stop all spontaneous writing
- 2 Establish regular practice periods

- 3 Practice should be writing slowly from copy
- 4 At first the teacher may guide the child's hand.
- 5 The letters, in large size, may be traced
6. Practice may be necessary on every letter.

Better, of course, than any remedial training is prevention, which is entirely possible if careful attention is given to beginning writers, especially the left-handed, and measures are taken to correct the first sign of reversed writing. In the usual school situation it is probable that a majority of mirror writers will show spontaneous correction. Mentally deficient children are probably the chief exception. Persistence of the habit into adult life may be a diagnostic sign of infantile reaction. Cahen-Brach (1893) suggested that persistence beyond puberty might be looked upon with suspicion.

ARITHMETIC

This fourth tool subject, while probably of greater importance to the child than either spelling or writing, is considered last because it only indirectly involves language ability, and it seemed better to discuss the language abilities at one time.

Included in arithmetic are three fairly distinct processes which are related in a manner similar to reading mechanics and reading comprehension. The first of these is numeration, involving the idea of numbers, counting and the like; the second, computation or mechanics, including the four basic processes—addition, subtraction, multiplication, and division—used with whole numbers, fractions, and decimals; and the third, problem solving or the application of the first two processes to problems requiring arithmetic for solution. These processes are closely related; they are not identical.

Ability to count does not guarantee success with computations, nor does a rather high accuracy in computation facts necessarily mean that the child can use them in problem solving. Successive steps in arithmetic skill have been shown to require higher and higher degrees of mental ability. Thus Terman on the Stanford-Binet places counting four objects at year IV, counting backward from 20 to one at year VIII, and introduces problem solving (in making change) at year IX. For computational facts Washburne (1930), in reporting investigations of the "Committee of Seven," has presented Table XXXI, which shows the minimal mental ages for learning certain of

these facts. In addition to his M.A., the child must have a certain minimum correct retention of the preceding facts which in only one case is less than 80 per cent Washburne's explanation of the table is as follows: "The following summary table indicates the mental-age levels . . . children should first attain if at least three out of four of them are to make the very modest mastery represented by a retention test score of 80 per cent in the various topics herein mentioned"

TABLE XXXI—MINIMAL MENTAL AGES FOR ARITHMETIC PROCESSES^a

| Topics | Years | Months |
|---|-------|-----------------|
| Addition facts | | |
| Sums ten and under | 6 | 5 |
| Sums over ten | 7 | 4 |
| Subtraction facts | | |
| Easier 50 | 7 | 0 |
| Harder 50 | 8 | 3 |
| Subtraction process | 8 | 9 |
| Multiplication facts | 8 | 4 or |
| | 10 | 2 ^d |
| Simple long division, one- and two-place quotient | 10 | 9 |
| Meaning of fractions | | |
| Non-grouping | 9 | 0 |
| Grouping | 11 | 7 |
| Graphs, simple bar | 10 | 5 |
| Percentage, Case I | 12 | 4 or |
| | 13 | 11 ^b |

^a Table reprinted by permission from page 670 of the 10th Yearbook of the National Society for the Study of Education, with changes requested by G. M. Whipple, Secretary.

^b The investigators found the latter M. A. to meet the criteria more nearly, but the lower M. A. may be considered satisfactory.

While higher intelligence as represented by M.A. is required for successive steps in arithmetic computations, the reported correlations between abilities in these different processes are usually high. Thus Scott (1919) found an r of .64 between abilities in addition and subtraction, and after a series of practice tests the correlation rose to .92. Correlations of about .60 to .70 and conclusions of "fairly high positive correlation" appear in practically all reports of investigation on the relations of computational abilities.

The reported relationships between computation and arithmetical reasoning or problem solving are usually low. Stone (1908) and Davies (1914), to mention only two studies, agree in finding almost no relationship between these two variables. In fact, the later investigator found an r of -0.06 in one class and of 0.18 in another. Collar (1920) concluded from his study of the arithmetical ability of some 200

school boys that this ability appears to be dual, i.e., one part involves skill in computing easily, and the other, power in solving problems which require a higher degree of general ability than that required for computation. It goes without saying, however, that successful problem solving requires complete mastery of computation facts, and in a large measure computation is dependent upon numeration.

CAUSES

Unlike reading, spelling and writing, arithmetic achievement is not specifically affected by sensory, motor or perceptual deficiencies. In so far as these may influence all educational achievements they are of importance here, but in our specific concern with arithmetical disability we need not discuss them. This particular educational disability may be attributed to one of three main causes: (1) lack of intelligence, (2) poor computational habits at earlier levels, and (3) inefficient methods in the operations.

1. *Intelligence*—The relationship between intelligence test performance and arithmetic achievement is appreciably high but not as high as the correlation for reading. In Table XXXII a number of correlations published in the literature are presented. These correlations may be summarized thus:

| Decade | Number |
|--------------|--------|
| 20- 29 | 1 |
| 30- 39 | 6 |
| 40- 49 | 6 |
| 50- 59 | 10 |
| 60- 69 | 2 |
| 70- 79 | 6 |
| 80- 89 | 1 |
| 90- 99 | 2 |
| Mean | 55.1 |
| Median | 55 |
| Modal decade | 50-59 |

A coefficient of correlation of this order warrants investigation of intelligence in diagnosis. The data give in Table XXXI are also indicative of the part played by intelligence in arithmetic achievement.

2. *Poor Computational Habits*.—As Washburne (1930) has shown in the study already referred to, each successive step in computational facts requires not only increased general intelligence but also a certain minimum mastery of the preceding facts. Thus to master the easier subtraction facts a child must not only have an M.A. as shown

TABLE XXXII—SUMMARY OF CORRELATIONS BETWEEN INTELLIGENCE AND ARITHMETIC

| Source | Intelligence | Arithmetic | No of Cases | Description | r |
|--------------------------|-----------------|-----------------------------------|--|---|---|
| Bird (1920) | Composite group | Courtis-speed Courtis-accuracy | 60 60 | Gr IV-VIII " | .57 .52 |
| Buckingham (1921) | Illinois | Illinois arithmetic | 192 156 | Gr VII Gr VIII | .33 .63 |
| Burt (1922) | Binet | Problems Computation | | Ages 7-14 years " | .55 .41 |
| Dougherty (1933) | National | Missouri State Test | 935 907 932 853 2631 2400 1963 1696 649 795 826 707 1952 | Gr VI, 1st Quart " 2nd " " 3rd " " 4th " Gr VII, 1st " " 2nd " " 3rd " " 4th " Gr VIII, 1st " " 2nd " " 3rd " " 4th " VIIIth grade, state final | .50 .46 .59 .57 .56 .40 .49 .68 .51 .57 .58 .72 .71 |
| Franzen (1922) | Binet | Woody-McCall | 81 | C A constant | .73 |
| Gates (1922) | Composite group | Composite | c 20 | Gr III | .30 |
| | Binet M A | | | Gr III Gr IV Gr V Gr VI Gr IV-VIII | .42 .35 .25 .30 .30 |
| Gates and LaSalle (1923) | National | Woody | 75 | Gr III-VI, 1920 " , 1921 | .91 .92 |
| | Binet | | | " , 1920 " , 1921 | .77 .83 |
| Porteus (1922) | Binet | Educational Attainments Scale | 32 26 | Feeble-minded in institution | boys .79 girls .76 |
| Taylor (1928) | National | Woody-McCall | 1968 | Gr IV-VIII begin- ning semester End semester | .43 .33 |

in Table XXXI but he should show a retention of at least 84 per cent of the addition facts, while for the harder subtraction facts he should have a retention of addition of 96 per cent.

Computational ability is a sort of hierarchy of habits which must be automatized for facility in use. Such automatization may be secured by laborious, extensive, mechanical, repetitive drill, or in more able children by some drill with an appreciation of certain of the principles involved. If the mastery of these habits is interfered with by absences, ill health, poor teaching, neglect or antagonism and so on, there will be greater or smaller portions which the child does not know and cannot use. If these are determined and special attention is paid to building up the missing habits, general improvement will follow.

3. *Inefficient Methods of Work*—Addition (especially when it involves carrying), subtraction, multiplication, and division all may be performed by several methods, each of which has its warm supporters. Although a great deal of psychological and educational investigation has gone into the study of these processes, there is still disagreement as to which is most efficient. However, any one of the accepted methods is much more efficient than some of the cumbersome, idiosyncratic methods devised by children. Such unique methods often result in the correct answer but they are extremely slow. Uhl (1917) describes the case of a boy who had developed a method of subtraction involving multiplication. For example, to subtract eight from 50 he would first get the nearest multiple of eight by temporarily neglecting two units of the minuend. The multiple, 48, he then disintegrated into eights and dropped one of them. The next step was to add to this figure the neglected two units, and he had the correct answer—42! Such circumlocutions could hardly make for efficiency.

Perhaps more frequently unique methods are based upon lack of clear understanding of the process, leading to an incorrect answer. Such results are noted in ordinary tests merely as incorrect, but the reason for the error is not evident. Green and Buswell (1930) give concrete instances illustrating this. For example, a third-grade pupil subtracted four from 86 thus: "Six and four are ten. Ten and eight are eighteen. Turn it the other way makes 81." This is only one point from the correct answer, so the teacher might well believe that the subtraction fact $6 - 4$ was not a sufficiently strong habit. Actually the difficulty was more serious, for the child had almost no idea of the general process involved. A sixth-grade pupil multiplying 35897 by two got the answer 76244 instead of 71794. Her method: "Seven 2's are 14. Seven 9's are 63, and 1 is 64. Seven 8's are 56, and 6 are

62. Five 2's are 10, and 6 are 16. Three 2's are 6 and 1 is 7" In this case the erroneous answer would suggest no reason for the error as the first one might

DIAGNOSIS

The examination of children with arithmetic disabilities probably does not need to be quite as complete as that for reading disabilities, but it should include determination of intelligence level, and those phases of the educational history which might indicate interference, because of absence or the like, with the establishment of fundamental computation habits. Difficulties in problem solving may rest upon a reading disability, for example, the child does not understand the problem when he has to read it, but he may be able to do it satisfactorily when it is read to him.

Probably the more important diagnostic problem is the determination of the nature of the disability. Merely knowing that the arithmetic achievement level is low in an individual or a class is of importance, but it does not offer a satisfactory starting point for corrective work. The disability may be one of several possible kinds, and unless the specific one is known, corrective training may entirely miss the point. It is uneconomical to train the child in things he already knows. Therefore results on the survey or general achievement type of arithmetic examination are of only limited value in diagnosis.

Diagnostic tests if properly devised not only point out the presence of errors but also indicate possible causes of these errors. A child may secure a satisfactory number of correct answers but in a slow, laborious manner; or he may have incorrect answers because of lack of necessary previous operations, carelessness, lack of comprehension of the processes involved, etc. Thus, some children have not automatized the addition facts and are forced to count on their fingers; or they break numbers up into parts, solving 26 plus 8 by successively adding two fours to 26 because the $8 + 6$ fact has not been

fixed. The addition
$$\begin{array}{r} 3 \\ 7 \end{array}$$
 may be easily solved when arranged in a column

but utterly failed when arranged as the formula $3 + 7 = ?$. Subtraction may be difficult or impossible because of the child's weakness in addition. Within any of the four fundamental processes many dif-

ferent incorrect responses are possible. For example, in addition, the child may count on his fingers, carry incorrectly, use the wrong fundamental operation, subtract the carried number, forget to write down the whole answer, etc. Similarly in subtraction, multiplication, division, fractions, decimals, and other computational processes, there is a lengthy but finite number of possible errors.

It is the purpose of individual diagnosis to discover such erroneous methods. The frequency and something of the type of errors having been found by means of formal tests, the next step is close analysis of the child's actual activities. This may be done by direct personal examination. As in all testing, the child must be put at his ease and adequate cooperation must be secured by suitable preliminaries. He should be told that you are going to give him some arithmetic problems and you want him to work them orally so that you can see just how he does them. Problems should be selected from any suitable list; or a standard individual diagnostic test, e.g., that of Buswell-John, may be used. The first problems should be very easy ones, which the child will certainly solve. The examiner should make a complete record of the child's own verbalization of his process in solving the problem, and also a record of such things as counting fingers, tapping, and the like. If the child neglects to speak aloud while he is working he should be reminded, or, perhaps better, he should be asked to relate after he has come to a solution just exactly how he reached it. By starting with very simple problems in each of the fundamental processes and working through to the point in difficulty where the child is unable to respond, the examiner has a record not only of his methods of work but also of his limits in terms of difficulty.

REMEDIAL WORK

In most clinic situations the psychologist's connection with corrective work will be limited to recommendations. These will first include aspects related to conditions not primarily associated with arithmetic. Thus the child's abilities as found by intelligence tests may enable the clinician to suggest limits in achievement and so save unnecessary labor in attempting to teach fractions when the child can probably not go much further than short division. Factors of physical condition, home circumstances, or perhaps general attitudes between the child and the school should all be considered before direct remedial teaching is undertaken.

The remedial teaching directed toward the difficulties found is the task of the classroom teacher or a special teacher, and under ordinary circumstances cannot be entered into by the psychologist. He can supply the list of difficulties, list of the possible causes the child actually uses, and perhaps make some suggestions as to how they might be removed. As yet, however, there is no standard list of remedial procedures that will correct all of the possible difficulties encountered. There is no objection to giving remedial work to small groups of children if a sufficient number of them exhibit the same sort of difficulty to make the group teaching economical. One generalization may be made; that is, it is unnecessary and uneconomical to teach each child what he alone needs. Beyond that, corrective work depends upon the individual case.

Chapter VII

SUPERIORITY

IT MAY seem anomalous to devote a chapter to the superior child in a book otherwise devoted to undesirable deviations. However, such discussion is justified because psychological clinics are frequently called upon to examine, and advise on the treatment of, superior children. Furthermore, to have superior children referred because of undesirable behavior, even including school failure, is by no means unknown.

In contrast to feeble-mindedness at the other extreme of the distribution of intelligence, there is little question concerning the definition of the superior child. At no period in the world's history has there been a lack of recognition of superiority, but such recognition has had to wait upon outstanding accomplishment usually evident not earlier than adolescence and sometimes not until late adulthood. The widespread use of intelligence tests soon indicated the existence of more children with better than average performance than might have been expected from the incidence of famous men and women in the history of the world. Thus, the very beginnings of the investigation of the superior person were bound up with psychological methods, with the result that the accepted definitions are almost exclusively psychological. By common acceptance an IQ of 110 on a test like the Binet is taken as the minimum performance indicating superiority. An IQ delimitation of this group is usable, whereas in defining feeble-mindedness it was not. This follows in part from the fact mentioned earlier, that a test score may be too low, but is seldom too high. Therefore, an IQ of 110 indicates the child is probably not below this level. More rigorous criteria have been proposed, as we shall see in connection with diagnosis.

Superior children appear in psychological clinics for three main reasons. First, they may be referred because of behavior not apparently related to the superior ability, but falling into almost every other class considered in this book. Secondly, they are referred because parents or teachers recognize their superiority, and want advice on

educational or vocational programs. Thirdly, they are referred by teachers or parents for the purpose of establishing the fact or the degree of suspected superiority. Before considering the more specifically clinical aspects of the problem we may give some picture of the condition in general.

CAUSES AND CHARACTERISTICS

The causes or reasons given for superiority parallel closely those to which feeble-mindedness is ascribed. Consistent findings that superior children come from superior families have, of course, been taken to substantiate the thesis that hereditary factors are causal. Such a conclusion is not a necessary consequence inasmuch as the obvious factors of social inheritance are seldom controlled or corrected for. Regardless of the interpretation, there is no doubt that available data show the preponderance of superior children coming from superior families. In Terman's (1925) classic study two or more superior children came from 82 families, this is some 1200 times as many as chance expectancy. The siblings of the children in his group averaged around 120 and 130 IQ, whereas siblings of unselected children would average around 100 IQ. Galton (1869) found that 977 very eminent men from a population of about four millions had 535 equally eminent relatives; on a chance expectancy this number of unselected men would probably have about four eminent relatives.

The homes of superior children are usually found to be superior. The home ratings on such a scale as the Whittier are high, and the children live in better neighborhoods. The occupational status of the father is usually high, Terman's figures given in Table XXXIII being typical of most studies. The parents have more education, the figure commonly found showing an average of 12 or 13 years in school for both fathers and mothers.

TABLE XXXIII — OCCUPATIONAL STATUS OF FATHERS OF SUPERIOR CHILDREN
(AFTER TERMAN)

| Occupation | Per Cent |
|----------------------------------|----------|
| Professional | 31.4 |
| Semi-professional and business | 50.0 |
| Skilled labor | 11.8 |
| Semi- and slightly skilled labor | 6.6 |
| Common labor | 0.13 |

While the evidence available indicates that superior children come largely from superior families and superior homes, there is as yet little reason for using these data to support either an hereditary or an environmental theory of causation. The exception to the rule—like Ralph, a boy studied at the I. U. Psychological Clinic who had a Binet I.Q. of 180, who lived in an average middle-class home, whose father was a grocery store clerk, and whose grandparents were in no way outstanding—would appear to invalidate either hypothesis.

As a group, mentally superior children show superiority in many other directions. We may briefly summarize the findings from Terman's group as typical. These children showed physical superiority in anthropometric measures, in health status on examination, and in health history. Educational accomplishment was of course superior, although not so much so as the I.Q.'s might lead one to expect. This is probably to be attributed to the school and not the child. Their school preferences were expressed for abstract subjects, and their interests in general emphasized reading, hobbies, especially collections, more mature play interests, and so on. In character and personality traits, as measured both by standard scales and by participation in group activities, the superior children were found to be decidedly above the average of unselected children.

In summary, the picture of a group of children selected because they exhibit extremely high I.Q.'s is one of general all-round superiority. It must be carefully noted that such a picture is for a group and that individuals may show variability in specific directions that may rate them below the average. Therefore, guidance of the individual must rest upon the conditions of that individual and not upon the average condition of the group.

In a subsequent study Burks, Jensen, and Terman (1930) found that after seven years the general picture of their group had not changed. In most cases all the promise inherent in the earlier examinations had been fulfilled. Similar findings by a number of other investigators indicate that the common belief that early superiority is apt to fail or "die out" should be relegated to some limbo of erroneous popular beliefs. Such findings strengthen the reasons for careful guidance of superior children, because without guidance there is a great possibility that they will not make the most of their ability. Failure to do so means a social and economic waste.

DIAGNOSIS

While the modern definition of the superior child is usually based upon test performance, there are other criteria which are useful for selecting the more intelligent children in a group, or in conjunction with test results.

Factors relating to the child's school work are very useful. Terman found that being the youngest child in a given class was a better sign of superiority than any other criterion. Teachers' judgments of superiority are even less reliable than their judgment of intelligence in general. Varner (1922) found that teachers selected from 50 to 60 per cent of the dull children in their classes, but when asked to select superior children they selected only from 20 to 40 per cent. As class marks are to a great extent teachers' judgments, they cannot be taken as too weighty evidence of superiority or its converse. Agreement between the grading of two or more teachers increases the validity of class marks as a criterion. Active and interested participation in extra-curricular activities, especially the intellectual sorts such as journalism, language clubs, hobby clubs, and the like, is also indicative.

Another very significant sign of superiority is an active curiosity or inquiring interest. Such interest in the small child is shown by the frequent, almost constant, "Why—?" "How—?" "Where—?" "When—?" In older children it is shown by active investigation of things—trees, animals, machinery, stoves, and what not—as well as in planning and construction. Furthermore, in most superior children it manifests itself in reading for information. A two-month record of reading kept by children in Terman's group showed that the typical gifted child of seven read more books than the normal control children of any age up to fifteen. Their reading included more science, history, biography, travel, informational fiction, poetry and drama, and less adventure, mystery, and emotional fiction, than did the reading of the control group. Superior children also make greater use of dictionaries and reference books.

While the establishment of the fact of superiority may be possible on the basis of criteria such as the above, the determination of degree must rest upon test performance. Discussion of the I.Q.'s of superior children usually refers to such values determined by the Binet test. In his group of 995 children used to standardize the Stanford-Binet,

Terman (1916) found that twenty per cent had I.Q.'s of 110 or above. While such individuals represent a group superior to the general population, those near the lower border would be only equal to, or even inferior to, the average professional or successful business men in ability. Therefore a higher minimum boundary is necessary for delimitation. Such boundaries have been selected by different investigators at 115, 120, 130, and even 140 I.Q. The approximate frequency of children at these higher I.Q.'s is shown in Table XXXIV.

TABLE XXXIV.—FREQUENCY OF OCCURRENCE OF SUPERIOR I.Q.'s

| I.Q. | Occurs | | Reference |
|---------------|----------|-------------------|----------------------------|
| | Once per | Times per 1000 | |
| 110 or better | 5 | 200 | Terman (1916) |
| 116 " " | 10 | 100 | " |
| 122 " " | 20 | 50 | " |
| 125 " " | 33 | 30 | " |
| 128 " " | 50 | 20 | " |
| 130 " " | 100 | 10 | " |
| 140 " " | 200 | 4 or 5 | Terman (1919) |
| 150 " " | 400 | 2 or 3 | Terman and Burks (1933) |
| 160 " " | 2000 | less than 1 | " " " |
| 140-149 | 550 | 1 8 | Terman (1925) ^a |
| 150-159 | 850 | 1 2 | " |
| 160-169 | 2400 | 4 | " |
| 170-179 | 6000 | 17 | " |
| 180-189 | 14000 | 07 | " |
| 190-199 | 84000 | 012 | " |
| 200 | 168000 | 006 | " |

^a These values have been calculated from Terman's data, which were based upon an actual survey of 167,812 children. He suggests that as many as twenty per cent of superior children might have been missed by the survey method used. As to change them on this assumption. The higher values may allow a true normal distribution there would be only about

While the conventional estimation of the degree of superiority is based on tests of the Binet type, gifted children usually show high performance in all types of test. However, their performance on non-verbal tests is often lower than on verbal tests. This is evidence of the degree of superiority.

Another series of diagnostic problems that may occur with greater frequency than the mere determination of superiority are those aimed at discovering reasons for lack of an adjustment to school or society.

Most such problems of maladjustment are due to a lack of appreciation of the superiority on the part of teachers, parents, or even the child. Once the fact of superiority is established, the clinical search must be directed to the accumulation and critical interpretation of data concerning behavior and attitudes of the child under his teacher, parents, and associates. A simple enumeration of some possible sources of difficulty is suggestive of desirable clinical approaches.

- 1 Lack of teacher's recognition of superiority leading to an antagonism toward the school as an institution
2. Lack of parental recognition of superiority with resulting lack of stimulation or positive discouragement.
- 3 Superiority over available associates so marked that social adjustment is extremely difficult.
- 4 Development of poor study or work habits because of lack of stimulation of classroom work
- 5 Development of misdirected, narrow or undesirable interests because of lack of guidance
- 6 Possible interference of sensory or motor defects with full accomplishment.
- 7 Development of inferiority feelings because the child's interests and activities are not socially recognized by his group
8. Development of a boastful, conceited personality because of unwise emphasis by adults.
- 9 One-sided personality development because of lack of normal social activities resulting from parental intervention or from number three above.

This list in no way exhausts the possibilities of difficulty that may be found in superior children. The clinical examination of such children should follow any suggestion for examination made elsewhere in this book.

The following case, abstracted from an excellent account published by Warner (1930), illustrates a case of school failure in a superior boy. This boy was failing in the fifth grade, in spite of the fact that his mental ability was that of about sixteen or seventeen. That his poor work was the result of the school's attitude is shown by his decided improvement when placed in a special class.

Case Number 18 (Warner, 1930). Eugene, brought to Dr. E. J. Emerick, Director of the Bureau of Juvenile Research, for a neuro-

psychiatric examination, was eleven years and eleven months old. Had done failing work in fifth grade for two years, but following the rule of but two years in one grade, was promoted to the sixth. Was doing failing work in that grade when examined. Eugene had a defect in vision due to far-sightedness. Glasses had corrected this and the oculist said that use of his eyes need not be restricted.

Eugene's father was a college graduate with grade A records. His mother a normal school graduate, intelligent and apparently stable. The father was killed in an auto accident when Eugene was eight years old and he and his mother lived with the maternal grandparents. The grandfather was an active business man and thought Eugene should be left to work out his own problems and not petted or spoiled; that he was not unusual, and should have no special privileges. He admired the boy and was fond of him. A young uncle played the rôle of older brother. Eugene's mother worked in her father's office. Eugene helped his grandmother at home. He was happy in a good home situation and presented no problem except when required to do school home work.

His school teachers reported him as doing his best work in history; he was especially poor in "hand work" and his deportment was always poor. He attended school regularly but was often tardy. For the second time he was being expelled from school. His teachers had conferred and come to the conclusion that he was mentally low, morally unclean, and a hopeless disciplinary problem. He would squirm, chew pencils, go through contortions and throw himself out of his seat, would disobey the teacher and annoy the other children—who did not seem to like him.

Eugene's own report was to the effect that he caused trouble by not minding, and he failed his grades because he did not work. He said he was anxious to answer questions in class, would get restless waiting to be called upon and would "get to moving around a lot."

The pathological and physical examinations showed Eugene to be in good health, his responses quick and often nervous, with many purposeless movements.

His mental and educational examinations showed startling results. His educational test did not rate him below seventh grade (at a time when he had failed fifth and was failing sixth grade). Stanford Achievement was one year and four months higher than his chronological age. Stanford-Binet was seventeen years and one month, giving him an I.Q. of 142 and a ranking of superior mental ability.

During the testing Eugene seemed nervous. He jumped at sud-

den noises, his actions were quick, and his motor control poor. He showed indications of instability, although his reasoning was logical.

He was accepted as day pupil in the School for Psychopathic Children at the Bureau of Juvenile Research. The clinical teacher in the school said she had a hard time to keep him busy. "He works so rapidly and has so much energy." "He soon devours any assignment given him. He is very active and wants to be doing something all the time. He quickly exhausts a task and is ready for another. The clinician feels that nothing has yet been presented him which will tax his powers enough to keep him busy. He has ample time to keep ahead of the group and at the same time entertain them. He wiggles constantly in his seat, jingles nails in his pockets, taps on the floor with his feet, in fact, does anything except be quiet. He is apparently unconscious of his actions."

He liked the school, was never tardy, presented no disciplinary problem and did home work with a zest. His arithmetic seemed hard and showed lack of having learned fundamentals. He used trial-and-error method for the four processes. His own comment was that he did "them every way." He was actually at this school less than six months—being out six weeks with influenza—and his test records at the end of his term showed an increase of grade equivalent exactly one grade and education age 11 years, and a mental age of eighteen years. From here he went to the seventh grade of a neighboring junior high school. He mastered arithmetic and made the football team. He left with the highest arithmetic grade of his class—that of 99.

The three cases following illustrate the possibilities of poor school work and personality disturbances arising in superior children because of attitudes in the home. In each case recognition of the child's superiority and a change in the parental attitudes resulted in satisfactory adjustments.

Case Number 19 (Marcus, 1933) I am reminded of a nine-year-old boy of superior intelligence who was doing average work in the grade proper to his abilities. In the classroom he appeared abysmally unhappy, and daily besought his teacher to tell his parents that he really tried to do his work. His anxiety was unrelieved by the teacher's reassurances, and finally, when the parents complained to her about the child's "mediocre marks," she referred them to the visiting teacher. The latter soon learned that both parents were continually punishing the boy for his willful failure to repeat the dazzling performances of his older brothers and measure up to old family traditions of intellectual brilliance. She told them that the child was doing good work

and presented no problem on that score. Concluding that the trouble lay in the parents' relationship to the boy, she attempted to inquire into the family situation. Here they balked her as she had just balked them. She had denied their problem, now they denied hers. According to their stories, there were no difficulties in family relationships. Having disposed of this topic, they returned to their own immediate preoccupation. All the mother wanted was to have the boy cured of the laziness which prevented his following his brothers' phenomenal example. The father felt that the only problem lay in the child's refusal to profit by home tutoring and in his lack of respect for the family's academic standards. In despair the visiting teacher turned to the child himself. He told her that he *knew* that he was stupid and that he must do better, and asked her, as he had asked the teacher, to tell his parents that he meant to try. The visiting teacher assured him that he wasn't stupid and made an effort to find out from him something about his relations with his family, but he said that everything was all right at home. He, too, persisted in returning to a problem that the visiting teacher could not see as real.

Thus the case was blocked for a time by the fact that the parents and child, on the one hand, and the visiting teacher, on the other, had opposing opinions about the nature of the problem. The struggle between the contending factions continued until the visiting teacher realized that a problem exists or does not exist according to the individual's feeling about it. Once she ceased to deny the problem as the parents and the child saw it, she was rewarded by the response she wanted. The child, given the freedom to talk about his alleged stupidity, went on to discuss his parents' disgust with him, his brothers' taunts, his plan to run away, his wish that he were dead. The mother, permitted to tell what was bothering her, revealed a secret she had kept from her husband, the existence of a feeble-minded uncle, and expressed her guilt about the possible contamination she had introduced into her husband's good family stock. The father, in his turn, confided his suspicion that his wife was responsible for the child's obstinacy because she had spoiled him in his sickly childhood. Thus, finally, the case was launched, because each member of the trio was talking from his individual feeling rather than from the theoretical basis the visiting teacher had had in mind.

Case Number 20 (Regensburg, 1926) Take an unusually clear case of identification with, this time, a "bad mother" instead of an entirely satisfying one, in which the child, a girl of fourteen in third term of senior high school, is reported to be failing in Latin and

slumping generally in all her marks Her Latin teacher reported: "She is an average student, nothing exceptional She is serious, earnest, a hard worker, probably doing about the best she can In class, though she is attentive, she is passive, not alert, probably because her response is slow, not that she is dull As she develops, I believe she will improve as a student, but will never be brilliant" This seemed to throw light on the problem until examination revealed an intelligence quotient of 120 Evidently, then, Sarah was not doing the best she could The next step was to inquire into the social relationships of this girl in an effort to find the factors underlying the school failure, which was only one of the symptoms for which she was referred to the clinic

Among the essential facts for this aspect of her problem we find the presence of a mother of considerable intelligence whose life has been a series of thwarted ambitions in the educational field. Her desire had been to enter upon a professional career, and with that still in mind, she attends college evening courses while the girl views her efforts with contempt The mother, we find, has continually nagged this daughter about her school work, urging her to prepare for college and supervising her methods of study with exasperating attention to detail, while the girl ardently desires to make music her main study, but is unable to dominate the situation. What happened is of tremendous interest to the psychiatrist The mother has always been a splendid Latin scholar, and we find this capable girl failing in that very subject, identifying it with her mother, who is thwarting the child's natural desires and who, as an added insult, lavishes her affection only upon the younger sister We find further identification in the girl's spontaneous expression of dislike for the history teacher. The connection here lies in the fact that the mother, worried over her daughter's failing marks, had a particularly long conversation with Sarah's history teacher. As the girl herself put it, "I feel so uneasy when she (the history teacher) is around She and my mother had a talk about me and now she knows what my mother thinks and I guess she thinks the same" In other words, the history teacher now also becomes the mother, whose attitude toward her, the child feels, is unsympathetic and unfair. Sarah was quite sure she could make good marks in history if she had another teacher Instead of allowing such a change, the psychiatrist, of course, took up the matter of identifications as a mental-hygiene issue; a couple of weeks later Sarah's mark in a history test was 86 and her opinion was changed to read, "I don't know but what I like that teacher some after all" Furthermore, the patient gives full vent to her feelings about bught people in general, a protective device against all

who, like her clever, though non-understanding mother, may cause her discomfort and insecurity.

Case Number 21 (Regensburg, 1926) Take an instance in which the child showed comparative failure in both native intelligence tests and school achievement. This child, a girl, ten years and two months of age when first seen, presented an unusually distressing social background. For the first four years of her life she was neglected, frightened, and abused by a mother who was in her turn driven by a tremendous emotional conflict. The active abuse was later displaced for a time by a period of indifference on the part of the mother, until finally she became desirous of making a better adjustment and came to us for help. At this time, the child was finding extreme difficulty in adapting to the presence of a younger brother and sister, who emphasized, unconsciously enough, her isolation from the mother. Upon coming to the clinic, she was found to be extremely upset and, in addition, unfit for fifth-grade work, her normal placement, though she obtained at that time an intelligence quotient of 115. Three years earlier at another clinic, when the problem had been not nearly so acute, examination had revealed an intelligence quotient of 128.

Study of her school record gives a history of inability to concentrate as early as her first school year. In addition to this manifestation of an emotional problem, when she came to the bureau, Edith felt unwanted, thought she was no good, complained of unfair treatment, was jealous of her younger brother and unable to make friends, attempted to dominate by being bossy and demanding her own way, and ambivalently showed an overwhelming desire for friends and affection. She was growing seclusive, sat dreaming and sucking her thumb, was afraid of the dark, and had been stealing and then lying in self-defense. She was failing school as a result of her inner conflict and inability to attend to anything but her emotional life, and of course was suffering great distress because of her younger brother's school success. Treatment was indicated and carried out for the mother before any change could be made in the child's reactions. Treatment for Edith herself consisted mainly in giving her insight into her feeling toward her brother and sister and her attitude toward school, as in neither the home nor the school setting did she feel any security. At home she was keenly aware of her mother's partiality and favoritism, in school she felt her teacher to be unfairly critical. The child admitted that as a result she was not trying to study. When threatened with demotion to her brother's class at one time during treatment, the child's distress was acute, her unhealthy

reaction being that if she were left back, she'd never study again. The insulting experience was avoided by a brief period of tutoring to which Edith responded very successfully. When, after several months of treatment, she had to be transferred to a new school, she had reached the point where she could say: "I begin to understand that I am the biggest and can copy from my mother and father . . . When I get to that new school, I know that I am going to make friends all right. When I don't have just as good things, I won't mind." After the school transfer, she remarked to the psychiatrist, when questioned as to her daydreams, "I used to do it in that other school because I was so unhappy, but now everything is so much better I don't have to." A month later she had an excellent report card and was promoted at the end of the term. That brings us, at the end of ten months of treatment, to the date of retesting, which gave the following result. The Terman score obtained was an intelligence quotient of 136, a rise of twenty-one points over the previous testing. Now just eleven years old, she was in high fifth grade, approximately normal placement for her chronological age, but of course considerably retarded for her mental age of fourteen years, eleven months. She made an improvement of two school grades on standardized arithmetic test, now scoring fifth instead of third grade. She obtained an eighth-grade, against a previous record of a fifth-grade, score in reading, though she did not improve on her previous fourth- to fifth-grade score in spelling. It is obvious that the school situation cleared up with the better adjustment at home. As she felt assured of a place in her family group, assumed the responsibilities of an oldest child, and ignored opportunities to fight with the brother who was her nearest rival, the need to find satisfaction in daydreams at school and to identify her teacher with a bad mother at home dropped out of the picture. The present finds Edith in a rapid-advance class where she belongs.

MANAGEMENT

The actual accomplishment of some superior children is so great that no effort should be spared to enable all such children to reach a similar accomplishment. Hollingworth (1926) has summarized the histories of thirteen children having I.Q.'s of 180 or more. Samples of the activities of these children include reading a fourth-grade book at the age of four and a half; having read 700 books by the eighth birthday; the reading of elementary English, French, and Esperanto by twins at the age of four; passing Harvard College Entrance Board

examination before twelfth birthday; M A degree at sixteen years; writing, editing, and typing a playground newspaper at seven years, devising a four-handed and three-handed checker game at ten years. These are merely samples of activities, many similar ones are related in detail. With such possibilities as these, social wisdom would dictate the conservation and utilization of such human resources.

The earliest source of opportunity, of course, is in the home. Frequent signs of superiority are pre-school interest and activity in reading, abstract reasoning, intellectual games and, perhaps above all, asking questions as a means of satisfying curiosity. In this last characteristic lies a rational convenient starting point for parental aid in the child's development. Answer the child's questions, all of them, as completely as possible; and if you don't know admit it, but help him to search out the answer. Some such dictum should always be a parent's guide. The home should also provide books, which are the gifted child's chief tools. If the parents are financially unable to buy books they should make full use of available library facilities. Encourage the child's interests by furnishing tools and material for construction, by assisting with his collections, by making possible adequate social contacts, by helping him in every way to take advantage of his ability in carrying out his interests.

A word of caution. superior children need freedom as well as guidance. Ambitious parents may do too much, may too carefully watch the child. The story is told of one very gifted boy attending one of the largest universities, whose mother was his constant companion. She went to classes with him, she ate with him, she took him to the library, she was his *alter ego*, she may well have been an incubus. Little wonder if this boy's abilities should fail to be evident in his vocational adjustments. The gifted child not only needs intellectual stimulation, but he may need, even more pressingly, help in learning emotional control and social adaptability. John Stuart Mill is an excellent example of famous men whose early education was obtained in the home. His father undertook all his education, with the result that at four years he could read English and Greek and by eight years had read Herodotus, Lucian and Plato in the original. He was similarly advanced in all other academic studies. Yet in his autobiography Mill expresses regret that the régime imposed by his father had consumed his childhood.

Advice to parents of gifted children should be: help the child, stimu-

late him, guide him, but give him also opportunity to develop the independence and social skill that come, both of them, from as normal contact with his fellows as is possible. For many parents the question of formal school training is a serious one "How young should the child start school?" "How much extra work should he do?" "Should he go to the regular school at all?" Questions such as these are frequently asked. They can be answered for each child only in the light of his circumstances

The frequent difficult situation of the gifted child in the usual school is succinctly expressed by Osburn and Rohan (1931), who say,¹ "In the first place, granted that gifted children can learn without help, the fact remains that they are not left to themselves. They are not allowed to remain out of school, as was Lincoln, and educate themselves without a teacher. Worse still, they are not allowed to learn in spite of the teacher. In the ordinary school the rule for the gifted child is. 'This much shall you learn, and no more. If by chance you get through with your lesson before your fellows are through, fold your hands and wait quietly until all have finished studying.'" That this is not an exaggeration could be shown in many published studies; one example will serve as an illustration. Root (1921) describes a boy who at eight years had a Binet M A of sixteen years and therefore an IQ of 200. His aunt, in writing an account of the boy, says, "In the second grade he was forced to sit for twenty or twenty-five minutes, studying a reading lesson out of a book, which he could have read through in that time. At home he was told to take some book to school, but the teacher refused to let him read in school, even the *Cyclopedia of Common Things*." But if we were to attempt to discuss the inadequacies of the usual school program for the superior child we should need a separate volume.

For those schools which are willing to recognize and attempt to meet the needs of the superior child there are four methods which have been shown to be practicable: (1) accelerated promotions, (2) enriched curriculum, with or without accelerated promotion, (3) increased extra-curricular activities, (4) special classes

1. *Accelerated Promotions*—Mort and Featherstone (1932), in their study of promotion practices in city school systems previously mentioned, found in the sixth grade of yearly promotion schools 27 per cent of children retarded, but only four per cent accelerated, and in

¹ Reprinted from Osburn and Rohan, *Enriching the Curriculum for Gifted Children*. By permission of The Macmillan Company, publishers

semi-annual promotion schools 27 per cent retarded and eight per cent accelerated. As intelligence has many times been shown to follow a normal distribution, these differences in percentage can be accounted for only by the reluctance of most schools to accelerate su- ✓

teacher's inability to recognize superiority, and often her unwillingness to lose the more able children, are the least worthy. The most serious arguments against rapid promotion concerns the physical and social maladjustment that may follow. The seven- or eight-year-old is handicapped by his physical and social immaturity when compared with twelve- or fourteen-year-olds who are his intellectual equals. With advancing age the discrepancy in age is less serious; thus the fifteen-year-old entering college with eighteen- or nineteen-year-olds is not too seriously out of place.

On the other hand, there is one decided advantage in acceleration. Modern preparation for professional work, taking, as it does, from seven to ten years of college and graduate training, makes it impossible for the usual student to become established in his profession much before the age of thirty. Superior children with I.Q.'s of 140, 150, or more might well be able to reduce this age five or more years if their whole academic career were condensed by accelerated progress.

Perhaps for most children a restrained use of acceleration with the use of one or a combination of the other three methods is a better all-round program. In any event, the decision in a single case must be based on factors concerning that case alone.

2 *Enriched Curriculum*—The method of dealing with the education of the gifted child that is probably most practicable for schools in general is enrichment of the curriculum. This may consist simply in the teacher making books and equipment available for one or a few children, or, at the other extreme, it may amount to a special class program. The latter we shall consider as a separate item. Enrichment of curriculum in the regular grades may involve cooperation of the home in the matter of special tutorial work in those cases where the family is financially able to afford such special teaching. In any case, the nature of the extra work is a serious question.

One primary circumstance that makes extra work possible is the ease and speed with which the gifted child accomplishes the usual

required school tasks. Experience has shown that children in special classes consistently complete the required work of a grade in one-half, or even less, the usual amount of time. In the lower grades where tool subjects constitute most of the work, drill is an almost absolute necessity. This is true for the superior as well as for the average child. However, the superior child requires less drill, which makes available time for extra work. In higher grades, the whole program may, without interference with the rest of the class, be so modified that extra time is available. The extra work may be done as individual projects in regular class hours, or at special hours. On certain days in the week the gifted children might meet in groups, or, if the school program admits, the gifted child may be allowed to work at his own pace. Such administrative details can, however, be settled only by the school authorities. The home's cooperation in enriching the child's work may be directly with the child or it may be done during school hours, or it may be in the form of extra-school tutoring. In any case, enriched programs should be so planned that the work is not too heavily laden with bookishness, and the child is not deprived of the necessary social and physical activity.

Hollingworth (1926) has an excellent discussion of curriculum enrichment methods, and our brief comments are greatly influenced by her work. There is a disadvantage in using subjects from more advanced grades, e.g., algebra, history, geometry, or Latin, as extra work because, unless the whole school system can be changed, the integration between successive grades is thereby destroyed. Where such subjects are used, it amounts to accelerated promotions. Hollingworth proposes four types of enrichment that have a definite life value and at the same time do not interfere with the school program.

The first and most general of these proposals is to introduce the child to a consideration of how man got to his present stage of civilization. Such historio-social studies are nowhere treated as a unit in the school system. Hollingworth presents a number of outlines for projects dealing with such subjects as food supply, laws, and so on. A second proposal closely related to the first is the study of biographies. In one public school in Manhattan, a group of superior children started to study biographies as an experiment for one semester. At the insistence of the children themselves, this study was continued for two years. The third proposed enrichment is of a somewhat different nature. It is the study of a modern foreign language, because for young superior children it is relatively easy and serves as

a valuable additional tool when they undertake college and more advanced work. The fourth proposal, that the child be given training in art or music, depends to some extent on abilities shown in these fields which are not always equivalent to the general ability. Art and music in the way of appreciation and interpretation are valuable studies for the superior child, and successful achievement is probably possible for most such children. Training in performance may not be equally satisfactory.

Other fields of interest offer great opportunities for additional work. More usually these fields have no place in the school's academic program and so are considered as extra-curricular. Thus, we are brought to the third method of enriching the superior child's work.

3. *Extra-curricular Activities*—The inclusion of activities from extra-academic fields offers limitless possibilities for interesting and efficient utilization of the gifted child's abilities and time. Such possibilities are legion, and we shall not essay an exhaustive account of them. Osburn and Rohan (1931) have discussed at some length the administrative problems in the education of gifted children, and have presented plans in exhaustive detail for a number of extra-curricular activities. Essentially, their program is the establishment of study and discussion clubs among superior children which meet regularly at times set aside for them from the regular school day. They discuss the programs for the following clubs: radio, newspaper, forestry, nurses, mechanics, salesmanship, teachers, and arts and crafts. This list includes only those clubs actually in operation in one school system. Further activities of this type immediately suggest themselves, for example, nature study, automobile, aviation, stamp, and book clubs.

In many schools, educational trips have been used as a valuable addition to either curricular or extra-curricular work. Such trips are made to the plants of local industries, to newspapers, large stores, museums, and other points of scientific and cultural interest. These excursions probably have a greater value if they are integrated with the total program of classroom or club work. Following the trip, a period is devoted to discussion by the children of things and methods seen.

4. *Special Classes*—Although there are a large number of classes organized for children of subnormal intelligence, special classes for superior children are relatively few. In a recent survey of education, Foster, *et al* (1933), reported only 1834 superior children enrolled in special classes, while there were 88,885 subnormal children in special

classes and residential schools for the mentally inferior. The reasons for this difference probably are to be found in the reluctance of the school authorities to admit that they are not already dealing adequately with the superior child.

Other arguments against special classes for superior children have been urged. It is claimed that such segregation from the average child will make it difficult for them to adjust later in either high school, college, or business life; by segregating the superior children, the other children lose the stimulation of having gifted children in their classes, jealousy among the non-selected children and class consciousness among the selected are contrary to democratic ideals. There is little cogency in such arguments. Reports of the operation of classes for superior children uniformly negate all of them.

On the other hand, strong reasons may be urged in favor of segregation. Children in special classes find adequate competition, often for the first time in their school career. The possibilities offered for a program adapted to their abilities and directed toward an ultimate scholarly grasp of knowledge is perhaps the strongest positive argument. The organization of such special classes must meet such problems as community disapproval, financial obstacles, geographical location, and a host of others which it is not the function of this book to discuss.

In summary, probably the best method of dealing with the superior child is by well-organized and intelligently directed special classes. Where this is impossible, the psychologist may outline a program of work in which the classroom teacher and parents may cooperate.

BIBLIOGRAPHICAL NOTE

The classic study of superior children is that of Terman (1925), which was continued in the monograph of Burks, Jensen, and Terman (1930). A brief summary of their findings, with additions from other literature and an extensive bibliography, will be found in Terman and Burks (1933). Hollingworth (1926) has an excellent discussion of the whole problem. Of particular interest are her summaries of case histories concerning children with IQ's over 180. She also gives a very useful presentation of educational methods for use with the superior child. Osburn and Rohan (1931) present an extensive account of an attempt to use extra-curricular activities for enriching the work of the superior child. Stedman (1924) describes children and methods used in a special class for superior youngsters.

PART III

PRIMARY BEHAVIOR PROBLEMS

Chapter VIII

BEHAVIOR PROBLEMS INTRODUCTION

THERE is always a reason for referring a child to a psychological clinic. In some instances, the reason may be only that the person referring him wants advice for educational or vocational guidance. Except for cases of this type—which are relatively infrequent in clinics not organized for that specific purpose—all children referred to clinics have exhibited behavior to which someone has objected, or over which someone is concerned. The complaint of the referent must always be based upon observed actions. Therefore all children seen in clinics exhibit behavior difficulties. Such difficulties may be classed in three major categories: (1) those secondary to an inferiority or superiority in general abilities of the sort called “intelligence”; (2) those secondary to an organic disability, and (3) primary behavior problems, or those which are not based on either of the foregoing. The first of these we have discussed in Part II, and the second will be briefly treated in Part IV. Our concern in this section is with the third group.

The sources of, and reasons for, primary behavior problems are to be sought in the individual's reactional biography. Perhaps in this group of problems alone are psychological ontogenetic factors of exclusive importance. Inferior abilities or physical defects will of course modify the sort of experiential history an individual may have, so that psychological ontogenetic factors have significance here also. But primary behavior problems are essentially the direct present expressions of such factors. Thus the feeble-minded boy may steal; but his stealing is due in part to his lack of understanding, or his suggestibility, or some other thing characteristic of those with low intelligence. Stealing in the mentally and physically normal child may, for example, simply mirror the behavior pattern of the home and neighborhood from which he comes. In this case the stealing would be a primary behavior problem of one type. Similarly, temper, fears, food finicalness, lying, nightmares, and the host of other problems of behavior exhibited by children may—and probably usually do—

occur as the direct result of environmental interactions. Any attempt to differentiate types of problems in a final, theoretically absolute manner is doomed to failure. But for the practical problems of the clinic, useful distinctions can be made on the bases we have suggested.

Attempts at division become even more precarious when we essay a classification of primary behavior problems. When the child comes to the clinic our starting point in examination, diagnosis, or treatment must be the complaint. And the complaint is always a statement concerning, or a description of, behavior. If we consider a hundred cases of children who will not eat, we find that while the complaints are the same in all essential respects, the actual psychological problems may be quite different. Efforts at grouping children into classes with similar problems from the point of view of complaint plus experiential history lead ultimately to a dichotomy. One group will contain those children whose behavior is most parsimoniously explained as a direct patterning after the behavior of associates; e.g., father does not like carrots, will not eat them, and takes every occasion to call attention to his idiosyncrasy, and his small son exhibits the same behavior. In the other division will be those children whose environment does not afford any direct or obvious correlate of the behavior. For example, the child will not eat carrots although everyone else in the family does eat and enjoy them. Therefore, we can hardly consider the child's behavior as the result of direct imitation or as correlative with the environment. However, his behavior does appear to be associated with the fact that an ill sibling is getting the parents' attention, or that by refusing to eat he can assert a superiority over the family that otherwise he lacks; or he expresses fear of the results of eating carrots; or in some other way the refusal to eat is only indirectly, if at all, associated with the eating behavior of those about him.

From a pragmatic, clinical point of view a dichotomy of this sort is useful even though it may not be theoretically exact. It must be noted that the classification is not one of complaints, i.e., of particular acts. The true differentials lie in the experiential history preceding the specific act or series of acts. Thus, the allocation of a certain type of problem—e.g., refusal to eat, enuresis, stealing, fears, night terrors, stuttering, temper tantrums, truancy, masturbation, or what not—to one or the other class cannot be done with finality. Rather, children exhibiting these problems are classified, and until some such classifying is done work with the child may be of little avail.

By way of example, we have suggested the distinction between the two classes, here we may state differentials more formally (1) *Direct primary behavior problems*: Cases are to be classed here if the behavior is the result of imitation of, or has patently been learned from, members of the social environment. The actions complained of are the direct outcome of environmental forces operating upon the child. (2) *Indirect primary behavior problems*: Cases are to be classed here if it is evident from the history that an intermediate step appears between the influence of environmental situations and the complained-of activity. The direct result of the environmental forces here is the production of conflicts, apprehensions, fears, as well as attitudes and feelings of inferiority, inadequacy or insecurity. In short, they produce peculiarly self-related attitudes which in turn modify the subsequent environment-person interactions.

A further homely example of this distinction may be found in contrasting two boys who are exhibiting the same sort of undesirable behavior. One boy throws a stone through a store window. He is pleased and amused by the loud noise and perhaps the excitement of the proprietor. His mischief is wanton, not malicious. It may be in perfect accord with the disregard for, or lack of recognition of, property rights found in his home or neighborhood. This we would class as a direct behavior problem. A second boy also throws a stone through a window, but his attitude is revengeful; he will get even with that proprietor for some supposed injury, or he is boastfully showing off before his companions. Here the particular act is merely an overt way of showing the intermediate self-related attitude.

Previous attempts to classify behavior problems have established differentials on the basis of the conduct itself. Kanner (1935), in what is probably the most excellent text in child psychiatry, has divided problems into three groups: (1) those forming essential features of, or sequels to, physical illness, (2) those expressing themselves as involuntary part-dysfunctions; and (3) those expressing themselves clearly as whole-dysfunctions of the individual. Howard and Patry (1935) have essayed a classification which is imposing in the number of problems included, but which will not stand too close scrutiny in its details. In addition to behavior resulting from organic disturbances and constitutional or developmental defects, they have a major group of "reactive disorders on the basis of emotional, situational, habit-

training and personality maladjustments" This long but somewhat redundant heading includes three generic groups: (1) habit-training problems, (2) aggressive or protest behavior, and (3) submissive or recessive behavior Psychoses, both psycho- and somatogenic, are treated as a major order of problems. Nosologies such as these imply a definiteness in etiology and therapy of behavior problems that does not exist in fact.

A dichotomous classification of primary behavior problems proposed by Paynter and Blanchard (1929) is less ambitious than either of the foregoing but is perhaps clinically more efficient These authors divide the problems exhibited by the cases studied into personality problems and behavior problems, Ackerson (1931) used this dichotomy with one desirable change in terminology, in his analysis of the problems presented by 5000 clinic cases He uses "behavior problem" as a genus, with "personality problem" and "conduct problem" as two species The differentials between these two as given by Paynter and Blanchard and quoted by Ackerson are: (1) personality problems are those which more directly affect the individual in his personal adjustments; (2) conduct problems are those which interfere with other people In extreme degrees the former are found in psychoneurotic and psychotic patients, while the latter are found in delinquents and criminals The author freely admits that this scheme is the starting point for the division we have described above, but exact adoption of the dichotomy had to be given up because it leads to serious clinical and terminological difficulties

Clinical difficulties are immediately evident when one attempts allocation of problems. Ackerson (1931) did this very extensively in classifying nearly 500 different problems One does not seriously question those problems listed under the "personality" heading But one does wonder why "selfishness" is conduct, while "self-centered attitude" and "self-indulgent attitude" are personality, or why "quarrelsomeness" is conduct, while "argumentative attitude" is personality Stealing is classed in the conduct group, so is nail-biting; the former does affect other people, the latter does not, at least in any material way Thus, there must be several reasons for classifying any particular form of activity in one or the other group On the other hand, as we have already pointed out, stealing may be the overt expression of a personality difficulty, and nail-biting probably usually is There is hardly need to multiply examples to demonstrate that, while this scheme may be

useful for purposes of statistical analysis, it has many shortcomings when used clinically.

The terminological difficulties are perhaps not so serious; but they do introduce the question, "What is meant by personality?" This term is used so generally in dealing with certain types of problems that we must have clearly in mind at least its two major connotations. The broader of these connotations and the more technical definition may be illustrated by Kantor's (1933) statement: "Personality may be defined as the totality of a particular individual's reactions, in sum, everything the individual does and can do. This series of reaction systems we may refer to as the behavior equipment of the individual. Every psychological personality comprises a tremendously large number of reaction systems which in various interactional combinations constitute the individual's information, skill, abilities, and capacities." Other writers have emphasized the integration or the patterning of the totality that is personality. The essentials of statements made by various authors might be condensed to a definition expressed as follows. *Personality is the integrated totality of an individual's characteristic reaction tendencies.* A technical definition such as this includes all of the reactions of an individual: emotional, temperamental, social, moral, religious, "instinctive," motor skills, abilities, capacities—in short, everything the individual does and can do. In fact, the connotation becomes so broad that it is an almost unworkable clinical concept.

In a more limited sense, "personality is taken to mean the essential integration of the individual in terms of his own needs and goals. It refers primarily to inner stability and as such may occur as cause or effect in adjusting the person to the world about him" (Stoddard and Wellman, 1934). It is in this more limited sense that Paynter and Blanchard use the word in the connection discussed above. In this narrower connotation it is evident that we may meet personality difficulties, but we can recognize them only through overt behavior. Therefore, it is easy to confuse personality and conduct problems. In fact, it is impossible to ascribe any bit of behavior to one or the other except on the basis of ontogenetic history. And thus we come directly back to the distinction we have already made between direct and indirect primary behavior problems.

CLASSIFICATION

In the section above we have tried to show that attempts to classify problems are unsatisfactory, and that only children with problems can

be classified. However, when we attempt a textbook discussion of children's behavior problems we are faced with the necessity of following some scheme. In order to do so, we are forced to make divisions of problems, and thus to classify them. We shall essay a dichotomous type of classification for use here, similar to that used by Ackerson, even though it does not exactly conform to our previous classification of children with problems. This, however, does not violate what has previously been said, because certain types of action are more usually representative of direct problems, whereas others are characteristic of indirect problems. Furthermore, problems in the direct group are similar to those Ackerson calls conduct in that they are usually socially disturbing; conversely, problems in the indirect group, while they may result in socially disturbing behavior, frequently if not usually are found associated with behavior that is more specifically related to the person himself. Thus, various delinquencies or eating difficulties, while they may be symptomatic of indirect problems, are socially disturbing, and therefore may be grouped together. On the other hand, feelings of inferiority or fears affect the individual and his growth without being of much social significance. These forms of behavior may be a result of direct training, but they are not usually. These similarities allow us to group them together. If we follow the conventional designation, we can call the first of these "conduct problems" and the latter "personality problems." In using these terms we must be careful to understand their specific connotation in this connection and not confuse them with broader theoretical connotations.

We shall follow this plan and essay an outline grouping of the more frequently appearing problems or, perhaps more exactly, complaints. The first major group is conduct problems which are largely coincident with our "direct primary behavior problems." We may further divide conduct problems into two groups. The first would include such problems as enuresis, temper, masturbation, finger-sucking, nail-biting, and the like, which do not usually interfere with the legal and moral requirements of society. These problems are more frequently recognized in the home, although some of them are important in the school situation. The second group includes those problems, such as stealing, truancy, destructiveness, and the like, which do violate the legal or moral requirements of society. While these may occur only at home and while they are usually to be traced to home conditions, they do make a direct claim on society. We think of this second group as the

field of juvenile delinquency. However, it must be kept clearly in mind that psychologically there is a difference only in degree between the minor problems about which a mother worries and the more severe problems about which the policeman and neighbors worry as well.

The second major group is the personality problems which are coincident with "indirect primary behavior problems." These are characterized by a lack of, or a minor and rather negative, social significance. They are of far greater significance in terms of the individual's own development. Here also we may make two divisions. The first includes such things as daydreaming, worry, fears, jealousy, inferiority feeling, and the like, which interfere with, but do not preclude, suitable adjustment to reality. The second division includes the more serious abnormalities, such as psychoneuroses and psychoses, which represent extreme attempts to avoid contact with reality.

The following tabular summary illustrates the allocations made according to this scheme

I Conduct problems (direct primary behavior problems)

A Limited social significance

1. Particularly associated with home

- a. Feeding difficulties: excessive appetite, poor appetite, faulty and careless table manners, refusing to eat, refusing to feed self, gulping food, dawdling over food, food whims and fussiness, perverted appetite (pica), gagging and vomiting, swallowing air (aërophagia), regurgitation
- b. Elimination problems: enuresis, soiling (encopresis), constipation, diarrhoea.
- c. Sleep disturbances: insomnia, restless sleep, nightmares and frightening dreams, talking in sleep, sleepwalking (somnambulism), irregular sleep, habits, inversion of the natural order of sleeping and waking, grinding teeth, drowsiness
- d. Sex problems: masturbation, sex apprehension, excessive modesty, excessive sex curiosity, heterosexual interests and activities, fetishism, homosexual activities, other sex delinquencies or offenses
- e. Nervous habits: manipulation of the body, thumb-sucking, nose-picking, putting things in mouth, nail-biting
- f. Temper tantrums: breath holding, over-inquisitive,

eccentric behavior, temperamental, disobedient, stubborn, impudent, incompatibility with parents and siblings, "nervous," excitable, overactive and irritable, irresponsible, careless, untidy.

- g. Companionship problems few or no companions, difficulty in making friends, undesirable companions, irregular age choice, irregular sex choice, unpopular, non-cooperative, poor sport, play difficulties, refuses to play, plays poorly with other children, yields too easily to other children's persecution or teasing

2. Associated with home, school, and neighborhood

- a. Lying
- b. Swearing, vulgar, obscene
- c. Fighting
- d. Destructive
- e. Incurable (late hours, etc.)
- f. Bullying, teasing, cruelty

B. Serious social significance. Delinquency

- 1. Stealing
- 2. Truancy
- 3. Sex delinquency
- 4. Begging and vagrancy
- 5. Injury to persons—threats to harm or kill, and actual injury or murder
- 6. Arson
- 7. Suicide and attempted suicide

C. Speech problems

II Personality problems (indirect primary behavior problems)

A. Actively aggressive in mild or severe degree

N.B. These might include all forms of behavior listed under I, Conduct problems

B. Submissive, withdrawing behavior

- 1. Mild degree, making adequate adjustment difficult
 - a. Inferiority, lack of confidence, seclusive, bashful, shy, withdrawing, reticent, hypersensitive, self-conscious, dependent, easily discouraged, insecure, self-accusatory
 - b. Self-centered boasting, dominating, egotistic, show-off, conceited
 - c. Jealousy
 - d. Fear, cowardice, anxiety and constant worry

- e. Daydreaming, absent-mindedness
 - f. Negative to others rejects affection, ungrateful, shirks duty, sly, secretive
 - g. Suspicious, paranoid, feels slighted or persecuted
 - h. Listless, apathetic, lazy, lacks concentration and ambition
2. Severe degree, making adequate adjustment very difficult or impossible
- a. Psychoneuroses
 - i. Hysteria
 - ii. Psychasthenia
 - iii. Neurasthenia
 - b. Psychoses
 - i. Dementia praecox
 - ii. Manic-depressive
 - iii. With somatic basis.

A classification such as the above is, in some respects, too detailed. In actual practice one seldom sees a child showing only one problem and that in a pure form. Furthermore, the frequency of occurrence of the various problems varies widely. Some idea of the frequency may be secured by carefully examining Table XXXV, which has been made up from data presented in the references given in the first footnote. The percentages for Groups 1 (except as noted), 4 and 5 are those published, the other two groups have been calculated by the present writer. These percentages are not directly comparable one with another. Groups 1, 2, and 3 cover independent clinics to which children are referred from homes, schools, courts, etc., whereas the children in Groups 4 and 5 have all been referred by school teachers. The figures for Groups 1 and 3 are the percentages of children exhibiting the specified problem whether it was a cause for referring or was discovered by the clinic. In Group 2 the distribution is based on the primary reason for referring only; therefore these figures are much lower than in any other group. Groups 4 and 5 are children all referred from the same school system; these children were matched for chronological and mental age. Group 4 includes children reported by their teachers as problems, the children in Group 5 were not considered problems by the same teacher. Blank spaces in the table indicate that the problem was not mentioned as occurring in that group. In making the table the author has used his own judgment in combining the figures for two

TABLE XXXV — PROBLEMS FREQUENTLY SEEN IN CLINICS

| Problems | Groups ^a | | | | |
|------------------------------------|---------------------|-------|-----|----------------|----------------|
| | 1 | 2 | 3 | 4 | 5 |
| 1 Nervousness, restlessness | 41 | 11 | 14 | 83 | 44 |
| 2 Disobedience, stubbornness | 40 | 12 | 34 | 36 | 6 |
| 3 Retardation in school | 37 | 5 | | | |
| 4 Feeble-mindedness | 31 | 1 | | | |
| 5 Temper display, tantrums | 31 | 8 | 19 | 54 | 23 |
| 6 Listless, dull, lack of ambition | 30 | | | | |
| Stealing | 26 | 7 | | 34 | 4 |
| Childish, immature | 25 | | | | |
| Fighting, quarrelsome | 25 | 3 | | 58 | 22 |
| Enuresis | 25 | 5 | 35 | | |
| Lying | 24 | 6 | 0 4 | 56 | 6 |
| Placement advice | 24 | 3 | | | |
| Poor school work | 23 | 4 | | | |
| Cries easily | 22 | 2 | 6 | 28 | 19 |
| Masturbation | 19 | 2 | 10 | 4 ^b | 0 ^b |
| Truancy, school | 19 | | | 21 | 3 |
| Truancy, home | 18 | } 6 { | | | |
| Sensitiveness, worry | 18 | 3 | | | |
| Shyness, bashfulness | 17 | 3 | | 42 | 52 |
| Feeding problems | 12 ^c | 5 | 28 | | |
| Finger-sucking, nail-biting | 18 ^c | 3 | 18 | | |
| Sleep disturbances | 11 ^c | 3 | 12 | | |
| Fear | 18 ^c | 3 | 10 | | |
| Jealousy | 4 ^c | 3 | 5 | | |
| Destructiveness | 8 ^c | 1 | 5 | | |
| Speech difficulties | 11 | 3 | 17 | | |

^a Groups 1, 3000 cases, Illinois Bureau for Juvenile Research, Ackerson (1931); 2, 3500 cases, Institute for Child Guidance, New York, 1929-30; 3, 1000 cases, Ackerson (1931); 4, 100 cases, problems and 1, 100 cases, Ackerson (1931).

^b T, per cent and two per cent suspected cases, respectively.

^c These percentages were calculated from the complete tables. Ackerson warns against doing this, but these figures are indicative if not accurate.

or more problems for certain groups to make them coincide with the items listed; he does not feel that this has lessened the value of the table.

While data on the frequency of various problems in children's clinics as shown in Table XXXV suggest the relative importance of the different problems, at the same time they conceal an interesting point. Children represented in this table have been referred from many sources. The various referents or agencies might well have differences in opinion concerning the seriousness of the problem, but these differences would be concealed in this table. Data from studies by Wickman (1928), MacClenathan (1934), Martens (1932), and Stogdill (1931,

TABLE XXXVI—SERIOUSNESS RANKINGS OF PROBLEMS BY DIFFERENT GROUPS

| Parents ^a | | | Teachers | | Educator-psychologists | Mental Hygienists | |
|----------------------|----------------|---------------|--------------|--------------|------------------------|-------------------|----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| MacClenathan | MacClenathan | Stogdill | Wickman | MacClenathan | Martens | Wickman | Stogdill |
| Stealing | Stealing | Stealing | Heretosexual | Stealing | Heretosexual | Unsocialness | Depressed |
| Lack respons- | Lying | Masturbation | activity | Temper out- | activity | Suspiciousness | Fears |
| ibility | Selfishness | Lying | Stealing | bursts | weep and cry | Unhappy, de- | Cruelty |
| Selfishness | Temper out- | Cheating | Masturbation | Masturbation | easily | pressed | Constant |
| Lack coopera- | bursts | Unreliability | Obscene talk | Nervousness | Stealing | Resentfulness | whining |
| tion | Greediness | Disobedience | or notes | Disrespect | Temper out- | Fearfulness | Suspiciousness |
| Poor sports- | Irritability | Obscene talk | Untruthful- | for author- | bursts | Cruelty or | Nervousness |
| manship | Idleness | Playing with | ness | ity | Cruelty | bullying | Stealing |
| Jealousy | Lack respect | fire | Truancy | Cruelty | Truancy | Easily dis- | Cheating |
| Masturbation | for author- | Swearing | Impertinence | Lying | Cheating | couraged | Withdrawing |
| Lack consider- | ity | Cruelty | or defiance | Fear | Damage to | Suggestible | Unreliability |
| ation | Poor sports- | bullying | Cruelty or | Obscenity | property | Over-critical | |
| Lack courtesy | manship | Cheating | bullying | Lack respon- | Bullying | of others | |
| Lack self-con- | Aggressiveness | Destroying | school prop- | sibility | Deliberate | Sensitiveness | |
| fidence | | erty | | | refusal to | | |
| | | | | | obey | | |
| Column | 3 | 2 | 2 | 3 | 1 | 1 | 0 |
| 1 | | 2 | 3 | 4 | 2 | 0 | 1 |
| 2 | | 2 | 7 | 6 | 4 | 1 | 4 |
| 3 | | | | 6 | 8 | 1 | 3 |
| 4 | | | | | 4 | 2 | 4 |
| 5 | | | | | | 2 | 4 |
| 6 | | | | | | | 5 |
| 7 | | | | | | | |

^a Column 1, parents who had had lectures on child training
 Column 2, unselected parents from same district
 Column 3, members of churches and clubs. See text for further details

1933) throw some light on the question of possible differences. In Table XXXVI we have listed in the order of their rankings the ten problems which each of the groups named in the table rated as most serious.

Consideration of this table quickly demonstrates that various groups have their own idea of what constitutes serious problems, and it would seem to follow that such opinions would affect their selection of cases to be referred to child guidance clinics. In the lower half of the table are shown the degrees of communality between all possible pairs. If we average the number of items in common for the four major groups of raters we find the following degrees of correspondence.

| | Items in Common |
|---|--------------------|
| Parents vs parents | 2 33 |
| Parents vs teachers | 4 16 |
| Parents vs educator-psychologists | 2 33 |
| Parents vs mental hygienists | 1 16 |
| Teachers vs teachers | 6 00 |
| Teachers vs educator-psychologists | 6 00 |
| Teachers vs mental hygienists | 2 50 |
| Mental hygienists vs educator-psychologists | 3 00 |
| Mental hygienists vs mental hygienists | 5 00 |

The two groups of mental hygienists—Wickman's, consisting of 30 professional members of the clinical staffs of three child guidance clinics, and Stogdill's, consisting of 50 professional workers, largely psychologists—have five problems in common, but show little correspondence with any of the other groups. The two groups of teachers—Wickman's, including 511 teachers in elementary schools in six different communities, and MacClenathan's, the staff of one elementary school—agree well in their choices, there being six problems in common. Martens describes her group of 24 educators and psychologists as being "specialists of state or national reputation who had done outstanding work in the field of child growth and development or related subjects." Although they had directions similar to those given Wickman's mental hygienists, i.e., to rank in terms of seriousness to the future life of the child, this group had more problems among the first ten in common with the teachers' groups than in any of the other possible comparisons of communality. With Wickman's group they had eight problems in common and with MacClenathan's group there were four in common. This similarity, considered in the light of the source of Martens' study (based on work in a school clinic and published

by the U S Office of Education), might suggest that there were more educators than psychologists in her judging group, and that they may not have been far removed from classroom teaching!¹ The averages given above are further evidence that this group resembles teachers more than mental hygienists. The three groups of parents—one of MacClenathan's having a series of lectures and discussions on children and their problems, the other being a comparable group from the same socio-economic class but not having the special work, and Stogdill's, comprising 110 club and church members—have surprisingly little in common with each other, nor, less surprisingly, do they have much in common with any of the other groups. The averages show that they agree with teachers more than among themselves, and with the mental hygienists least of all.

The evidence of these comparisons forcefully demonstrates that those groups which have the closest day-by-day contact with children find that behavior which interferes with *their* authority, *their* program, or with *their* ideals and beliefs is problem behavior. Only the mental hygienists, who do not, professionally at least, have a close day-by-day contact, recognize the seriousness of behavior which does not noticeably interfere with the smooth running of things

A further question of significance to those who work with behavior problems in children concerns the definition of a normal or non-problem child, or to put it differently, "Do all children exhibit similar types of problems?" Olson (1930) assumed that all children were problem children but in varying degrees. Grave (1935) reports that Dr. George Preston sent histories of children designated as normal by their teachers to a number of child guidance clinics and asked the members of the staffs to pick those who needed clinical attention. The replies indicated that these mental hygienists considered that one-third of these children should have such attention. Martens (1932) also presents data supporting this assumption. One of her proofs is a rank order correlation of .90 between "problem" and "non-problem" children in the frequency of occurrence of the forty-four problems in her list. Another, perhaps more significant and certainly more interesting, line of evidence is the comparison of behavior problem scores for three groups of children at the beginning and end of the experi-

¹ Further evidence in this direction is found in Martens' chart showing the ratings of the three groups. The curve for the educator-psychologist group parallels almost exactly that for teachers, but has no relation to the mental hygienists' curve

mental period. The pertinent data are shown in Table XXXVII. Each of the forty-four problems was given a weight, and each child was given as his score the sum of the weights for all problems he presented. These scores were then averaged for each group. The experimental problem group of 68 children was studied and treated over approximately a two-year period. The non-problem control group was matched with the experimental group for sex, C A, school grade, and I Q. As they were reported as not problems by their teachers they were not dealt with further except to get behavior scores. The problem control group was made up of children originally reported as problems, but not treated for a variety of reasons. Their first and last scores represent an interval of only one year, while for the other two groups the interval is approximately two years.

TABLE XXXVII—CHANGES IN PROBLEM SCORES DURING A TWO-YEAR PERIOD (AFTER MARTENS AND RUSS)

| Group | No of Cases | Years | 1st Score | 2nd Score | Diff | σ Diff ^a | $\frac{\text{Diff}}{\sigma \text{ Diff}}$ |
|------------------|-------------|-------|-----------|-----------|------|----------------------------|---|
| Exper prob | 68 | 2 | 247 3 | 184 7 | 62 6 | 18 77 | 3 33 |
| Non-prob control | 68 | 2 | 81 3 | 106 8 | 25 5 | 10 52 | 2 42 |
| Prob. control | 50 | 1 | 213 3 | 205 0 | 8 3 | 15 00 | 55 |

^a The first two of the σ values are calculated from Martens' data, but as she does not give the correlation between the first and last series of scores they have been calculated by the formula for non-correlated measures, therefore they are too high. The last value is given by Martens.

The data show that clinical attention significantly reduced the behavior problem scores in the experimental group, while in the problem control group the scores remained stationary. The non-problem control group showed an increase in their score which approaches statistical reliability.

Recognizing the limitations of our survey, we may tentatively suggest three conclusions:

1. Certain problems occur in the case records of various clinics with great frequency.
2. Various individuals and groups having contact with the child have different ideas as to what constitutes a problem, and different criteria of seriousness for a given sort of behavior.
3. For our third conclusion we can do no better than quote from Martens: ". . . all children really are 'problem' children in that they do now or may present overt behavior difficulties which should receive

attention looking toward early adjustment, and that overt problem behavior varies in degree from that which is close to zero to that which places a child in the ranks of juvenile delinquency."

ETIOLOGY

Successful diagnosis or treatment of any of the many problems we have thus far mentioned rests to a large extent on a full appreciation of the many etiological possibilities. In this particular place we are disregarding certain problems which are secondary to other conditions, as has already been mentioned. In regard to the primary behavior problems we find that all factors of etiological moment are present in the reactional biography of the child. All of his behavior experiences, his interactions with members of his family group, with teachers and classmates in school, with playmates and other members of his neighborhood, and to some extent with inanimate objects of his environment all play a part of greater or lesser prominence in the development of his behavior patterns, whether they are acceptable or not. The possibility of the home, school, and neighborhood influencing the child's development is of sufficient importance to warrant more extensive treatment.

FAMILY RELATIONSHIPS

To assign a single factor as the cause of a behavior problem is an impossibility. We know certain things about the development of personality and the effects of its disturbances upon conduct, and we know something about the development of poor conduct patterns. Nevertheless, in the individual case we cannot depend upon generalities. We must know a good deal about the child and the people with whom he comes in contact. And we must know much more about them than may appear on the surface.

Among all of the factors that are pertinent to the development of personality and conduct, those associated with the home are of supreme importance. The child's relation to his parents, to siblings, and to other persons in the home, the parents' attitudes toward each other and toward the child, unfortunate ideas about child training held by parents, unsatisfactory material aspects of the home—all of these and a host of others play important parts in the child's development.

When we consider that the human infant for several years after birth is almost completely dependent upon his parents for his physical

needs, it at once becomes obvious that this means close interactional relationships between the child and the parents. A large share of the basic segments of every individual's reactional biography is formed during these earliest years. The importance of this early period Kantor (1933) suggests in the following paragraph:

"This equipmental development begins long before school age, however. From the very earliest days of its life the organism keeps building up reactions that remain as characteristic traits. Indeed, some of the most typical behavior traits are developed through such subtle and unobserved interactions that they seem inevitable and quite ineradicable. When and where did this child acquire his particular temperamental responses, his obstinacy, and his kindness? Only when we observe the detailed course of the individual's interaction can we discover the growth of such basic equipment. When we do so we can readily appreciate the subtle influences of the parents and other persons with whom the child is in contact." With this idea of the importance of the family to the child's development in mind, it is necessary that we point out in a rather general way those elements and relations within the family that are known to have or may reasonably be expected to have some influence on the child's growth.

The first question to be answered is how are we to define the family. Sociologically, this group, in western European culture at least, is thought of as consisting of a father, a mother, and their children. This relationship is undoubtedly true of the large majority of family units. However, from a psychological point of view, especially when we are considering the influence of this institution on the child, it would appear that, in some cases at least, more elements must be considered. For instance, a grandparent or grandparents often make their regular home with the family. On occasion other relatives may live in the home. Both of these groups may live in very intimate contact with the parents, the children, and the problems that arise in their relations. In some homes we find boarders who may be merely unsettled members of the household, but who in other homes may play a rather significant part in the family constellation. The same things are true in connection with servants. Those servants most directly connected with the child should probably be considered of great importance. Damian Carbon (1541) recognized this nearly 400 years ago when he said, after enumerating qualifications for a wet nurse, "All these requirements are necessary because the child will get his

habits from the nurse more than from his father and mother" As all of these people on occasion may and do play significant parts in the family, we shall define the family as consisting of the parents and children, plus all other people who live with them with some degree of permanency

Another question which must early be considered is that of the major types of relations existing between the adults and children in a given home. The most immediately obvious relationship we call physical. In this we would include all those things connected with the feeding, clothing, sheltering of the child, supplying him with toys or tools for activity, and possibly certain types of physical contacts, as, for example, corporal punishment. In so far as we are concerned with behavior, this physical aspect of the relationship is not of primary importance; we assume for our discussion that the child has a sufficiency of these material comforts. This does not imply that all children do have them; but when they are lacking they introduce other problems which we shall consider later in more detail. In one connection these physical relationships are significant, that is when they are overt indications of parental attitudes. Sayles (1925) tells the case of Mike Romano, whose father's attitude toward him is nicely made evident by the fact that he would not buy new clothes for Mike but could afford them, and did buy them, for his other children. On the other hand, Mrs. Wiggs of the Cabbage Patch had little to give to her children, but that little she gave in such a way as to indicate the harmoniousness of the household.

The other major type of relationship between adults and children we might call attitudinal, or perhaps psychological, or psychosocial. By this term we mean such things as attitudes, beliefs, interests, etc., that exist in and among the various members of the family group. Specifically, it would include training problems, love, encouragement; or, on the other hand, dislike, solicitude, neglect, and the like.

In the following discussion we shall not concern ourselves with the first of these relationships. In considering the second, we shall divide the problems according to the following scheme

- I Adults per se, i.e., the consideration of adults as individuals, as well as the relationships existing between adults
- II Adult vs. child. This includes the relation of the adults to the child as well as the child's relation to the adults
- III Child per se. Here we will consider the relations between

siblings both real and pseudo, including the step-siblings, or other children living in the home

I Adult-adult Interactions

Mother and Father—Among all the adults in even the most complex situations, the mother and father stand out as of probably the greatest importance. It is they who have the most intimate contact with the child in his early years and perhaps throughout a good share of his childhood. To quote again from Kantor (1933): "The persons with whom the infant is in first contact are the members of his family. The direct auspices of basic behavior, therefore, are the circumstances of family life. It follows, then, that the psychological nature of the individual definitely mirrors the kinds of objects found in his particular family and correlates highly with the activities of the family members. In other words, the kinds of abilities, beliefs, attitudes, speech, likes, and dislikes of the individual definitely represent the psychological status and conditions of the family in which they are developed. Study a child thoroughly and you understand the parents."

Since there can be no doubt of the importance of the parents, it is essential that we know rather thoroughly a good deal about them. The father and mother each have their own ways of behaving, their own attitudes and beliefs, their own personalities. And as they affect their children, so their parents have affected them in childhood. The cases presented by Maude Watson (1932) illustrate in an excellent way the influences of the parents' life on the child's behavior.

The most obvious data regarding the parents concern their condition at the time when the child is being studied. The usual division of labor in our social culture results in the mother taking care of the home and being in much closer contact with the children. Sometimes, however, economic necessity requires that the mother work, thus making it necessary for the children to be left alone or in the care of other people during a good share of the day. The social interests and activities of the mother at the other end of the economic scale may result in the same lack of contact with the children.

The father, as breadwinner in most families, is out of contact with the children most of the day. Nevertheless, he should have a rather definite function in relation to his children, but he often fails to exercise it. A rather quaint expression of the father's relation to the family, published in 1839 by T. H. Gallaudet, may be quoted with equal

force today. "How often has the faithful wife to conceal her disappointment, and sometimes to suppress her tears, while, after toiling to render *the only hours of the day* that bring her husband and the little ones whom they love together, the occasions of happy domestic enjoyment, of mutual improvement, and of a father's instructions and discipline, she finds him full of restless impatience to have the meal ready even before the appointed time, hurrying through it himself in silence, or, if speaking, using only the necessary household words, with an occasional suggestion to others to make that dispatch, of which he sets so striking an example. The children, too, have been made ready by maternal care, neat in their appearance, and smiling in their looks, to greet on his return one whom they reverence and love, and to gain, if possible, a few moments of his attention. But business presses,—letters must be written,—customers must be secured,—bargains must be made,—money must be saved or accumulated,—and the wife and children are neglected. Had not the father better be the poorer at the end of the year, by some hundreds or thousands, than thus to sacrifice to mammon the dearest interests of the little flock which God has entrusted to his care?"

As we have said earlier, the psychological attitudes of the parents are a result of their experiential history. This, of course, means that their childhood and those factors in the reactional biography there laid down must be of importance in their present condition. The father whose earlier home was dominated by a stern and perhaps cruel father, may carry that same sort of behavior into his relations with his own children. It is expressed in the often heard "When I was a boy I had to toe the mark; it didn't hurt me none and my boy's gotta do the same." Sometimes with the same early environmental conditions the result is quite the opposite; here, because of unpleasant childhood or lack of opportunity, the parents take the attitude that their children are not going to have to endure a similar childhood. (See Case Number 42.) Furthermore, the formal training of the parents may be a factor in the way in which they meet many problems—social, economic, psychological.

The earlier experiences of the parents may be evidenced by their own personality deteriorations, and, without doubt, these undesirable conditions will have their influences on the manner in which the parents treat their children. (See Cases Numbers 23, 25.) For example, Dexter (1928) reports the case of a boy who was unwholesomely in-

terested in religion and particularly in religious practices. Although the mother denied that the boy had ever been encouraged in this, the fact that she had been thwarted by her parents in a desire to enter a sisterhood and had herself shown undue interest in church affairs quite readily explained the boy's withdrawal from normal social activities. (See Case Number 45.)

More extreme kinds of personality disorders in parents have been shown to result in similar behavior on the part of children. Levy and Patrick (1928) have studied the behavior of children of parents who were subject to periodic headaches and fainting spells. The results indicated that parents who had fainting spells were most likely to have children who fainted or who exhibited breath-holding or head-banging, while parents with periodic headaches appeared to have children who exhibited similar difficulties. Myers (1929) contends that children of parents who have attitudes of suspicion or superiority develop similar attitudes.

Marital Relations.—In addition to the influences exerted by the individual parent, the attitudes and conditions between the two parents have been shown to be a fruitful source of troubles in the child. At the most favorable extreme we find a desirable type of relation between the parents which is well expressed by Mrs. Dummer (1921): "The essential home of the child lies in the attitude of the parents toward each other. Jealousy, hypocrisy, antagonism between parents may cause in their children mental retardation, physical disease, or delinquency. Mutual understanding, harmony in love, create an atmosphere more important to the development of children than food or raiment. Should a mental conflict or emotional shock occur to a child from an outside cause, a home atmosphere of freedom and trust is apt to dispel it. A frank revealing of emotional conflict helps to restore the child physically, mentally, and morally.

"These are not the vague dreams of a visionary, but have been practically proven time and again in mental clinics in our courts, by psychiatrists in sanatoria, and often through the intuition of friendship. So long as there are parents there will be opportunity for further evolution of those physical values of love which are the home, which nourish the child, permitting healthy growth of his personality.

"The development of the child depends not so much upon the quantity and quality of good, as upon the digestion of that taken

'Better a dinner of herbs where love is than a stalled ox and hatred therewith' "

This harmoniousness implies a give-and-take attitude on the part of the parents. Successful marriage involves, to some degree, the subjection of one's own desires, beliefs, and interests to those of the partner. All too frequently we find a lack of recognition of this necessity. The result is that one or the other parent tends to dominate in a greater or less degree, and this domination quite easily and naturally extends to domination of the whole family.

As a result of domination by one parent, or for other reasons, we may find quarreling and discord between the parents. This may take the form of rather subtle attitudes of one parent toward the other, or it may be sufficiently extreme to become evident in actual combat. In any case we might speak of such parental relations as constituting a broken home in a psychological sense, although there may be no actual separation. We do not know definitely what influence subtle discord may have upon the child, but certainly overt quarreling does influence his behavior.

The next step in the disintegration of a family would be a complete break evidenced by actual separation. Such homes are usually spoken of as "broken homes," but it is necessary to make certain distinctions. On the one hand, the break may come about as the culmination of a period of discord and dissatisfaction; on the other, it may occur because of the death of one of the parents. Each of these presents its own problems in the light of the child's development. The possible effects of broken homes have been shown again and again in studies of the frequency of the condition in the families of juvenile delinquents. It is hardly necessary to quote such references at great length, but the figures from Burt (1925) are representative. He compared matched groups of delinquents and non-delinquents in the city of London, and found that various kinds of broken homes were about four times as frequent among the delinquents as among the non-delinquents.

Homes broken by separation or divorce usually present a history of discord and dissension over a longer or shorter period preceding the actual separation. To this the child has of course been exposed, and he may react to the final break as the passing of even a modicum of security. Through the preliminary period and at the time of separation the child is frequently torn in his loyalty to his father or mother, and

unfortunately may be quite unable to understand why the stability of this very important part of his environment should so suddenly be lost.

The loss of one parent by death probably presents quite a different psychological problem. There is, of course, depending somewhat on the age of the child, more or less severe emotional disturbance, both from the loss of the parent and in relation to the other parent's emotional reaction. However, it is unusual for a period of discord to precede death. Burt gives some interesting figures which suggest the differences in reaction of the child to these two types of broken home. For example, the average frequency of father being dead per 100 delinquents is 12.2 and the similar figure for the non-delinquents is 12.5. For the father separated or divorced the frequency is 9.1 for the delinquents and only 0.2 for the non-delinquents. The mother's death shows a quite different relation, as in the delinquents the frequency was 13.7 while among the non-delinquents it was only 4.0.

There is a third type of separation, perhaps of less frequency than the first two, which is brought about by the father's occupation. This separation may be intermittent as, for example, in the case of a man whose business requires him to be away from home for varying intervals of one or two years. Such cases seem to have somewhat the same influence as we find in other types of broken homes.

In all of these situations there are perhaps a number of reasons why the break in the home will influence the child. Probably foremost among them is the fact that such a home lacks cooperation between the two parents in the training and development of the child. As we have previously pointed out, the father has a definite function in relation to the children, in spite of the fact that it is usually the mother who is in closer contact with them. It is interesting to note the contrasting figures given above from Burt in relation to one parent being dead. Apparently delinquency occurred more frequently when the mother, and not the father, was dead. This is probably explained by the supposition that with the mother dead the father still has to engage in his normal occupation, with the result that there is no very continuous guidance. While this lack of the influence of one parent is true in all cases of broken homes, in those broken by separation or divorce there is, in addition, the influence of the almost inevitable preceding dissension. That intra-family relationships are of greater significance than the incomplete family, *per se*, has been demonstrated.

For example, Silverman (1935) studied the effect of different types of broken homes upon the development of problems in children. From his data, given in Table XXXVIII, it is seen that only 25 per cent of the children from broken homes exhibited behavior difficulties. Homes broken for various reasons produced about the same frequency of problem and non-problem children. The author's conclusion emphasizes the importance of attitudes. He says: "From the findings it becomes apparent that there is no significant relationship between the broken home, which results from delinquency and incompatibility of the parents, and the behavior of the children from such homes, and that where problem behavior in these children occurs it is probably related much more to the subtler emotional relationship."

TABLE XXXVIII —PROPORTION OF CHILDREN FROM HOMES BROKEN FOR DIFFERENT REASONS
(after Silverman)

| Cause | Total Groups | | Children with Problems | |
|----------------------------|--------------|----------|------------------------|----------|
| | No | Per Cent | No | Per Cent |
| Total | 138 | 100 | 35 | 100 |
| Ill health or death | 50 | 36 | 12 | 34 |
| Mental factors | 33 | 23 | 8 | 22 |
| Economic factors | 18 | 13 | 3 | 8 |
| Sex delinquency | 87 | 63 | 19 | 54 |
| Other delinquency | 86 | 62 | 20 | 57 |
| Serious neglect or cruelty | 50 | 36 | 13 | 37 |

Other Adults—While perhaps the large majority of homes consist only of parents and the children, there are an appreciable number which include other members. If the other adults in the home are relatives, they may play a very intimate part. *A priori* there is no evil in such additions. However, grandparents or other relatives frequently exert a subtle or even overt interference with the parents' discipline or attitudes toward their own children. Where this intimacy does exist, we need to have much the same sort of information suggested earlier as desirable in relation to the parents.

The other adults who are not members of the direct family include servants or boarders. Here important problems are apt to arise only if these strangers have a rather high degree of intimacy with the family. This may be particularly true of servants who are directly concerned with the child's welfare, or of boarders who have lived a long enough

time with the family to be considered part of it. The possible presence of such influences should certainly be inquired into.

Another problem often introduced by boarders is that of overcrowding Babcock (1927) tells of a girl who exhibited a good deal of instability which, while not to be explained by the crowded condition of the home, was certainly greatly influenced thereby. At the age of fourteen she was living in the home of her sister. This home consisted of the girl, her sister and brother-in-law who had four children, a second sister and her two illegitimate children, and four male boarders (See Case Number 26)

Family as a Whole—Thus far our discussion has concerned problems and relations among the adult members of the family group. We must, of course, consider the attitudes of the family group toward individuals and institutions outside of it. One of the important problems in relation to the family as a social unit is connected with its economic position. Many studies have shown that there is some degree of relationship between low abilities as measured by standardized tests and the socio-economic position of the family. From this we could easily reason that children in such families would be apt to have less intelligent care than children in higher-type families. Furthermore, the stress of trying to secure the bare necessities of life may result in emotional and personality distortions in the parents which are all too soon reflected in the child's attitudes.

But the question of economic status is pertinent not only for families at the lower end of the scale; it may be equally so for those at the upper end. Here we are apt to find too great an abundance of the material things, and too little interest on the part of parents in the child as an individual. With an over-sufficiency of material goods comes what are regarded as obligations to "Society" or to charitable and public organizations. Both of these may take a good deal of the mother's or father's time, with the result that the children and their development are more closely under the supervision of servants.

While families at either end of the economic scale may present similar types of influences on the child's behavior, the problems presented by the child are probably quite different. J. Levy (1932) reports having studied children from families at the two extremes. Children of over-privileged homes most frequently exhibited disorders of personality, e.g., temper tantrums, negativism, introversions, etc. The under-privileged children, in striking contrast, exhibited a greater fre-

quency of conduct problems, including stealing, lying, and incorrigibility

Attitudes toward Social Institutions.—As we observe a child in all of his relations we find that after the age of five or six he has many normal contacts outside the home. He is going to school or kindergarten, he has playmates from the neighborhood or the school, he may be attending or urged to attend Sunday school, and so on. Often the parents' attitude toward these outside contacts may be very important in the etiology of difficulties. In many localities it is probably of great importance when the parents are of foreign birth and their attitudes have perhaps been well developed before they attempted to set up a home in a new country. The carrying with them of the social requirements of a different culture is reflected in the things they require of their children. Often such requirements may be in decided conflict with the experiences and information that the child has or learns from children at school or elsewhere. Levy (1933) tells of fifteen-year-old Mary Costello who was subject to fainting spells in school and who did many other things which had in common the element of attracting the teacher's attention. Mary's parents had very decided ideas of how Mary should conduct herself, and these did not coincide at all with the things that her classmates did. Apparently the teacher was an adult to whom she might turn for some sympathetic understanding of her problem. Instead of taking a direct approach, Mary attempted to get this attention by what amounted to disorderly conduct in the school room.

In a case seen in the I U. Psychological Clinics the problem was primarily poor work in school, but the teachers felt that much of the inability was due to an extreme degree of intermittent absences and tardiness. When the matter was brought to the attention of this child's mother and she was asked if she would try to have the boy in school on time, she answered to the effect that she certainly wasn't going to get up early enough in the morning to see that the child was fed and left on time—if he wanted to get up and get his own breakfast it was all right with her, but she certainly wasn't going to be bothered! Such attitudes on the part of parents may well make one wonder whether attempts to help the child adjust may not be futile.

Social Pathology.—Another group of problems concerning the family as a whole are those of crime and immorality. If these conditions are prevalent in the home we can expect that the child will be influ-

enced by direct example. We also sometimes find children making a comparison between their homes and those of their playmates with a frequent feeling of insecurity or of hopelessness.

II Adult-child Interactions

In the preceding section we have shown that certain psychological conditions of the parents and their relations to each other have an influence on the child's development. These factors primarily concern the parents themselves. But the attitudes of the parents toward their children are also important—in many respects more important than the first.

Desirable attitudes are shown in love and affection for the child, with at the same time recognition of the necessity of giving him freedom to build his own independent existence. Undesirable attitudes may be of many kinds, but all may be classed into three groups. (a) rejection of the child, (b) antagonism vs. favoritism for specific children, and (c) over-solicitude for the child.

Rejection.—Probably the extreme rejective attitude of parents toward their children is one in which a particular child or all children are unwanted. Even a rather cursory observation of the modern scene greatly weakens the once popular belief that there is a maternal instinct or a paternal instinct, the essence of which is a desire for children and their care. It rather appears that even this so-called instinct is a product of our social conventions and the individual's habit systems of conforming to those conventions. If the issue is not confused with supposed instincts, then we can discuss possible reasons why children may be unwelcome.

Among the common reasons for such an attitude are the increased economic burdens that additional children bring, interference with activities of the parents, and unhappiness in marriage. Probably the first reason is found more frequently in the lower economic groups where, at least during childhood, additional children mean a serious increase in the difficulties of mere living. Interference with parents' activities is more frequent in higher economic levels where the parents, and more particularly the mother, have interests in social life, clubs, or perhaps careers. Young children do take time and therefore do interfere with the pursuit of what to the individual are important activities. In either case the brunt of the parents' attitude must usually be carried by the child. Unhappiness in marriage is an understandable

reason for child rejection. Regardless of the cause of unhappiness, once it exists, everything connected with the marriage will be distasteful and unwelcome. This attitude may easily be extended to include children of the distasteful marriage. Newell (1934), in studying 33 cases of children rejected by their mothers, found that the principal reason for the rejection was the mother's unhappiness in her marriage.

The most common attitude toward the unwanted child is antagonism. The parents may have a high ideal of their duty toward the children and therefore attempt to conceal the fact that the care of this child is really a hardship to them. However, concealing such subtle attitudes is not easy. At the other extreme, the antagonism toward the child may be expressed in positive neglect or bodily harm.

Antagonism and Favoritism—As we have just pointed out, the unwanted child always has to live in a family group where the parents are antagonistic toward him. However, such antagonism may be based on other things. Thus, one sometimes finds parents who are antagonistic to one child because they believe he resembles an "in-law" or perhaps some other relative whom they dislike; or during the years that the child is growing up the parents' interests have broadened and the child interferes with them; or, again, a feeling of antagonism may arise because the child does not come up to the expectations that the parents had held for him.

Antagonism may appear as a corollary to the development of favoritism for another child. So frequently with the introduction of a baby into the family, the parents tend to forget the older child and center their attention on the baby. As children grow older they do lose much of the behavior and appearance which are considered cute in babies. Sometimes parents make too much of this cuteness, and as the older child loses it they make the younger the favorite. There are of course dangers to the favored child. He may, and frequently does, fail to develop independence to a desirable extent. A greater danger, however, in favoritism is the influence that it may have on the non-favored child.

As favoritism or antagonism is usually shown by one parent toward one child, further complications may arise in the total complex of intra-family relationships. Thus, Dexter (1928) has described the case of a thirteen-year-old boy whose academic and social adjustment was seriously disturbed by his excessive daydreaming and concern with religious activities. Robert's younger brother was his father's favorite

and the father invariably took the part of the younger boy. The result of the father's attitude plus the mother's own interest in religion was that she favored Robert, although she disclaimed any intentional partiality. These attitudes, having existed for a long period of time, made it impossible for attempts at therapy to show any appreciable results, at least in a five-month period. (See Case Number 45)

Over-solicitude.—The other extreme parental attitude which is probably as harmful to the child's development as an active dislike, is an extreme over-solicitude. Such an attitude of course may be shown by a father, but judging from the evidence of clinic cases it appears more frequently in mothers. It is evident to everyone that the small infant is dependent upon the mother. Unfortunately, some mothers seem to think that this dependence should be continued, sometimes even into adulthood. They continue to feed the child, to dress him, to kiss his hurts, to decide his personal questions, to fuss over him long after such activities should have stopped. While there is some evidence to suggest that such over-protected children may be accelerated in school, there is even stronger evidence that their personality development is seriously handicapped. (See Cases Numbers 27, 31)

The Child's Reaction—We have thus far discussed parents and their attitudes, and have only incidentally considered the child. Now let us ask the question—how does the child react to these parental attitudes? To consider this we must first point out that there are a few absolutely essential needs of the child that are satisfied by the parents.

Probably the most important of these is security and stability. The child's world is a narrow one and in it the parents stand out as the most important elements. On them he depends not only for his physical needs, but also for emotional satisfactions. In the harmonious home the child's relation is not to mother or father as separate entities, but to the totality of their relationship as parents. To this totality he can turn when he finds the problem of living too difficult. If this unity is torn and divided because of strife and ultimate separation, the only anchorage he knows is gone. True enough, he may turn to one member of the pair; but if much of his reactions have been built up in relation to stability in his parents, then separation must decidedly affect his outlook.

Neumann (1928) briefly relates Frank's difficulties. Frank's mother had divorced his father and married a half-breed Indian. Frank's own father was alcoholic. The mother was so unstable that Frank

was removed from the home and placed in an institution. Here his behavior was unruly and the attendants claimed that he misbehaved primarily to irritate them. Frank explained his feeling, and indirectly his behavior, when he expressed the belief that he never should have been born in that family. He had long lost any respect for or loyalty to his father because of his drinking; he had transferred all his loyalty to the mother in spite of full knowledge of her failings, and now by marrying the Indian she had gone back on him. In this discordant home, fourteen-year-old Frank had lost his feeling of security, and his behavior was analogous to that of the little boy whistling to keep up his courage. (See Case Number 28.)

The stable home, the feeling of security, is fundamental to the child's mental growth, the opportunity for which is the second of the major requirements on the family for the child. In the home the child may be given a great deal of stimulation and opportunity for growth and achievement along those lines that we place under the term intelligence. Of equal importance with these is his growth in what Porteus and Babcock (1926) term psychosynergic traits. Such traits are those that revolve about emotional and temperamental characteristics. The keynote of adequate personality development is the achievement of independence in meeting problems. The wholesome personality is that one which is able to meet issues decisively on the basis of its own experience and the accumulated experience of experts.

The opportunity of achieving such independence must be furnished the child by the home. Such training may be started even with the smallest infant. While, of course, it is true that the two-months-old is not sufficiently mature to perform many efficient motor acts for himself, much can be done in training him in ways of reacting to general situations. Thus, the establishment and strict adherence to routine in, for example, feeding and sleeping, apart from its purely physical values, probably helps to establish a general manner of reacting. Conversely, if parents are disturbed and fuss with the child every time he cries, he soon learns that crying is a method of securing the satisfaction of desires. It appears cruel to some people to allow a child to cry when put to bed, even though there is complete certainty that he is in no physical pain or discomfort. If one does pick him up and fuss with him whenever he cries under such conditions, he discovers a way of behaving—crying—by which to gain his ends. From such behavior in the infant it is but a step to the whining, demanding

child of six or seven. Better, by far, that the young infant should learn that certain aspects of the environment are inevitable. Such a realization is the first step in the growth of independence.

Parents should recognize the child not primarily as *their* child but as a human individual who has the rather difficult job of living a harmonious and happy life. Such recognition on the part of parents necessitates their doing everything in their power slowly but surely to release the child from their influence. It is absurd to expect the adolescent of fourteen or eighteen to select his clothes, decide on desirable dates, or make any other judgments, if the necessity for making them has been rather suddenly thrust upon him. Long before, perhaps as young as five or six, the child's program should have included elements that would require him to make judgments and, having made them, to stand by the consequences. One of the author's students once told how in her family at Christmas time candy and nuts were available and the children were warned kindly that too much indulgence would probably mean suffering. Beyond that there was no attempt at regulation; and, as she said, it did not take more than one or two severe stomach aches to make the children avoid over-indulgence. The ideal is to train the child in such independent standards that he will know what to do when it is impossible to turn to the parent for advice.

We can hardly expect the child to exhibit satisfactory growth entirely independent of some sort of guidance from the parents. Unfortunately, there seems to have arisen a belief that psychology teaches that one should not interfere with the child, he should be allowed to perform as he desires. This extreme attitude is of course ridiculous. While there should not be too much interference with the child's ordinary behavior, there are certain things that every child must learn. In our social culture he should learn to use a knife and fork and not to eat with his fingers; he must learn to avoid the dangers of modern traffic on crowded streets, he must learn certain elements of polite behavior, and so forth. He could never learn these without interference from other people. The question is whether this interference should come from his parents who are interested in his welfare, or from uninterested strangers who are concerned largely with the effect of his undesirable acts on them. Children who exercise with a hammer upon the dining room table, who mark and tear books from the family library, who are insolent or vicious to

guests, who destroy property, or do a hundred and one other things of a like nature are not building up conduct habits conducive to easy and satisfactory adjustment when they must compete with a world unconcerned with their wants and desires. Most decidedly must the parents give the child guidance in his efforts to achieve independence, conduct, skill.

The guidance may be given directly or it may merely be through setting an example. Great care must be exercised in child guidance. Nagging will not do. Neither will advice and correction which are based primarily upon the parents' own desires. Guidance by example may be quite unconscious. The nervous, irritable mother, burdened with too much housework, should hardly be surprised when her ten-year-old girl is represented as "nervous." There is no need here to bring in any neuropathic heredity or any other factor except the unconscious example which the mother has set for the child.

That the child should have at least these three things as a minimum for the best personality development is generally recognized. If the parents are wise and congenial, if the home is stable, then the course of the child's development is clear, and the chances are definitely against the development of difficulties

If such an harmonious condition does not prevail, then some distortion in personality development is almost inevitable. Certain reactions of the child are generally to be expected. He may resent the antagonism or injustice of a parent, or the obvious favoritism shown to a sibling. Real fears may be built up by a cruel father. As Bezdek (1932) has pointed out, the child may develop a feeling of inferiority because of the dominance, superiority or strictness of the parents. Furthermore, he may remain dependent on the adults in the home because their attitudes do not allow him to develop independence.

Our knowledge of such personality quirks in the child is obtained only from his behavior. We have elsewhere discussed the fact that while behavior problems of children may be divided into direct and indirect problems, all of them are known only by observed conduct. Different children having essentially the same personality reaction to their family situation may show quite different behavior. The conduct of one child with inferiority feeling may be retiring, withdrawing, shy, a second child with a similar basic difficulty may be impertinent, disobedient, perhaps even aggressively vicious. This is not the place to discuss all of the possibilities; but in our subsequent con-

sideration of the problems that keep recurring it will again and again be seen that such personality aberrations are basic to the conduct.

III Sibling Interactions

While there is only one child in the family, only the behavior and attitudes of the parents, and sometimes other adults in the home, are operative in influencing his growth. Quite obviously the addition of children changes the configuration for each member of the family. The effects of position in the family or size of family on the development of a given child are relatively unknown, at least from any experimental evidence. We can suggest certain possible influences, but actual studies do not always bear out the *a priori* expectations. Certainly all of the influences that have been suggested do not operate on every child. But because they are sometimes of importance in the practical study of a child's difficulties we must briefly consider them.

Only Child—In a recent review Campbell (1934) points out that earlier investigators were inclined to feel that growing up as an only child was universally a mentally unhealthy condition. According to him, "Stanley Hall is said to have considered being an only child a disease in itself." Friedjung (1911) reports that 87 per cent of only children in his practice exhibited such behavior symptoms as fear, disturbed sleep, capriciousness, anorexia, enuresis and constipation, whereas only 31 per cent of children with siblings showed these traits. Burt (1925) found 122 per cent of only children in his delinquent group, and only 17 per cent in his non-delinquent group. Busemann (1928) concluded, on the basis of self-ratings of 400 children, that only children and those from small families were more introverted and dissatisfied with themselves. Teachers rated such children as more restless and hyperactive. In conformance with these ratings Goodenough (1929) found only children more distractible in mental test situations, and in another paper (with Leahy, 1927) reported they were rated as more excitable and unstable. On the other hand, Blatz and Bott (1927) found that only children had the best records when school teachers listed the misdemeanors of 1400 Toronto school children.

In respect to school work Busemann (1928) and Bohannon (1898) report that only children are below average. Wulker (1934), however, found no differences between the school achievement of 146 girls who were only children, and that of the group of 527 girls of which they

were a part Witty (1933), from a study of 153 five-year-old only children, concluded they were somewhat superior in health, physical development, intelligence and character traits. This report on physical condition is opposed to the earlier work of Bohannon (1898) and Friedjung (1911), both of whom found only children physically inferior.

From even this incomplete survey it is evident that the disagreements are of such a nature as to suggest the absence of real difference between groups of only and non-only children. This is borne out by more recent investigations with modern measuring scales which rather consistently indicate that the average differences between groups are small and generally insignificant. In individual cases, however, the close contact between the only child and his parents offers an excellent opportunity for the development of difficulties based upon failure. Clinically this may be of great significance.

The oldest child in a family group also has a unique position. For a longer or shorter period of time he has been an only child and subject to whatever influences the only child may be subject to. Then there is introduced into his world a new infant. If the parents have prepared him for the coming of a sibling and have led him to build up an attitude of expectant desire and anticipation, the new child may have no untoward influences. If, however, as is only too often the case, the younger one is introduced more or less as a surprise, the older child may resent his coming. Cases have been recorded—they are not at all infrequent—in which an older child's resentment of a younger one is sufficiently strong that he attempts bodily injury of the new sibling.

This is illustrated by the following abstract of a case from Miss Sewall (1930): Myron Canway was five years old when his baby sister was born. At this time Myron had whooping cough and was told by the doctor not to cough near the baby "or else she will get sick and then you won't have a baby sister any more." Several times after this, the mother found the boy coughing into the baby's face. At another time he poured salt into the younger child's eyes and at another time he pushed the bassinet over. One day his mother taught him to pat the baby's face. He did this, and when his mother's back was turned he slapped the baby hard and bit her finger.

Thurstone and Jenkins (1931) and Levy (1931), both working with cases from the files of the Illinois Bureau of Juvenile Research, found

that first-born children are problem children more frequently than those in any other ordinal position. The calculated frequency of first-born children per one thousand is 227, but Thurstone and Jenkins found 386 per thousand in their problem cases. Rosenow (1930), analyzing statistics from the Cleveland and Philadelphia Child Guidance Clinics, also found the incidence of first-born children somewhat higher than theoretical expectation. Stratton (1927) found that oldest children are more subject to anger than later children, but his study may be questioned as he did not correct for size of family. Goodenough and Leahy (1927) concluded from teachers' ratings on 293 kindergarten children that eldest children show a reliable difference from younger children in the presence of undesirable traits. They were judged low in aggressiveness, self-confidence, and leadership, but high in suggestibility, seclusiveness and introvert tendencies. The data show that 48 per cent of the only children could be definitely classed as aggressive, while 48 per cent of the eldest-child group could be classed as introverted.

Youngest Child—The youngest child holds another important position in terms of his own development. Even though he is not much younger than the next oldest sibling he not only has parents, who have a superiority because of age, but he also has one or more brothers and sisters who may nag at him because of a real or imaginary authority over him. This may be especially true if the youngest child is four or five or more years younger than the next older. His being made the baby of the family in the most extreme sense presents difficulties, for the task of developing independence in this situation is much more difficult than when he has to break away from only the father and mother. The total size of the sibship, however, probably makes a great difference in the effects on the child of being the youngest. Goodenough and Leahy (1927) found that 45 per cent of the youngest children could be classed as aggressive and 44 per cent were seclusive. This contradiction suggests that other factors than mere position in the family are important.

Some psychoanalysts hold ordinal position in the family to be important. Brill (1914) emphasized the peculiarity of only and of last-born children because of parental solicitude and lack of competition. Hug-Hellmuth (1921) thinks the middle child feels an uncertainty about his position in the home. Adler (1928), on the other hand, is impressed with the disadvantages of being the first-born.

Other Points—Intermediate children may present their own problems which are dependent upon the make-up of their family. Factors of age differences between children may operate so that an intermediate child in purely chronological terms is psychologically an oldest child, an only child, or a youngest child. Thus, a child born when his older siblings are in their late adolescence or adulthood is in fact an only child as well as being the youngest, and therefore may be influenced by his position in the family.

Sex differences among siblings probably play some part. The only boy in a family of three or four girls, or the only girl in a family of boys, certainly has a different home environment than children with siblings of their own sex. From the study of Thurstone and Jenkins (1931) it would appear that having a next older or younger sibling of the opposite sex tends to improve the chances of successful behavior adjustment.

Just what the influence of position in the family may be on a given child is entirely unpredictable. The possibility of jealousy among the siblings, favoritism on the part of parents, over-solicitude and other parental attitudes may be definitely influenced by such ordinal differences. But that in some cases the ordinal position in the family is important cannot be doubted, and it must therefore be considered in an adequate study of a case.

NON-HOME INFLUENCES

There can be no question about the importance of the home in the child's development. For two or three years of his infancy his social contacts are limited largely to the members of his immediate family, and throughout his life these individuals form possibly his most intimate contacts. But beginning at a rather young age, in many cases at two or three years, the child begins to make contacts outside of his home, and as he makes these the home loses a little of its influence. At first, the extra-home contacts are limited to children of his own approximate age living in the immediate neighborhood. While much evidence has been presented showing that although a child plays with others at this early age he tends to play as an individual and not as a member of a group, still these other children have some influence on his developing behavior. Perhaps as early as this—for many children by the ages of four or five, and most frequently for children of five or six—a new social contact is made. This is brought

about by entrance into nursery school, kindergarten, and first grade. Here, for perhaps the first time, the child comes into contact with other children who are geographically remote from him and whose socio-economic and cultural background may be quite different. While hardly as important as the earlier influences of his home, this broadening of his social horizon plays a decided part in his learning to make successful social adjustment.

School—For most children school entrance comes at about six years of age. For the next ten or twelve years at least, he spends five to seven hours a day five days a week in the school situation. Apart from any other influences, the mere fact of this long contact with the school situation would indicate that next to the home it probably plays the most important part in influencing the growth of behavior patterning.

The first month or so of school attendance represents a critical period in the life of the child. He comes to school with several years of limited contacts and behavior traits built up in connection with his home. For the five-year-old these represent a very definite way of behaving. Each of the other children similarly brings his or her home life pictured in his behavior. In the first month or several months these patterns, often conflicting, must be remodeled to work smoothly together. But there is still a third fact influential in the total situation. The school as an institution has a whole series of rules and regulations to which the child must exhibit some conformance. Often these rules are the very antithesis of the home requirements, yet ultimately each child must build up an intelligent acceptance of and conformance with the needs and desires of each other child and with the formal requirements of the school.

From the child's point of view the most important element of the school as an institution is the teacher. She stands out as one with authority, as the very personification of regulations to which the child must conform. Therefore from a mental hygiene point of view the teacher must exhibit a stability and understanding equal to that in the most ideal parent. In fact, she must do more because she represents not only the school, but in many cases all of the desirable elements of society. Although within the home confines there may be a little or no thought of the child's ultimate adjustment to the social mores, the teacher cannot neglect this more important desideratum.

One of the serious problems to be confronted by school authorities is the mental stability of their teachers. This, however, is a ques-

tion into which we cannot enter at this time. We have pointed out some of the findings which indicate teachers' attitudes toward problems in children; and, as we have seen, this evidence does not present a very cheering picture. It goes without saying that there are thousands of good teachers, good not because they are thoroughly familiar with their subject matter or because they are skillful in the bare mechanics of presentation, but because their subject matter and presentation are secondary to their interest in the child. Unfortunately, there are as many, if not more, teachers whose professional behavior is intimately bound up with the maintenance of discipline and the enforcement of formal rules and regulations as well as a formalized approach to their subject matter. This is largely to be laid at the doors of teacher training institutions. Even today, in spite of a growing interest in the child-centered school, many of our teacher training institutions still require hours of work in so-called methods of teaching, general and special subjects, and other sorts of technical courses concerned with minutiae of organization and administration, they almost entirely neglect work directed toward understanding the child and his problems. Dr. C. L. Williams (1935) sent a questionnaire to fifteen teacher training institutions in the State of Indiana, asking about work in mental hygiene required of teachers. The results from the thirteen schools which replied are astonishing. Only two of these required any work in mental hygiene. Even normal psychology was required only to the extent of three hours in general and three hours in educational psychology. Not a single institution required any work in abnormal psychology. However, in fairness it must be said that each of the schools which answered did offer further work in abnormal psychology as electives, but this does not mean much, because the educational curriculum is so filled with required technical courses that students have little time to spend on electives. While these results concern only one state, it would appear that they are representative of most teacher training schools.

Although we do not argue for a direct causal relationship, such findings do help to explain the results secured by Wickman (1928) and MacClenathan (1934), discussed above. Wickman found that teachers regarded immorality, dishonesty and transgressions against authority as more serious than disorderliness in the classroom or lack of school application. These last were more serious than aggressive personality and behavior, which in turn were more serious than

withdrawing, recessive behavior Professional mental hygienists working in child guidance clinics ranked withdrawing behavior as most serious, with dishonesty, cruelty, temper tantrums, and truancy somewhat less serious, followed by immorality, lack of school application, and extravagant behavior traits, then transgressions against authority; and, finally, violations of class orderliness as least serious. MacClenathan says, after contrasting the seriousness rankings of teachers and parents, "The cardinal tendency brought out by the study of the three tables certainly is that each group tends to rank as most serious those behavior patterns interfering most with the smooth functioning of that group's affairs" Because of the similarity in the rankings of the two groups of teachers (see Table XXXVI), the conclusions of either study might well fit the other.

Similar findings concerning teachers' attitudes toward problems as well as toward children may be gleaned from case studies in practically any clinic. Thus in Miss Wallace's (1924) case of Tom M, the teacher referred a boy when she was about to give him up in despair, considering him quite beyond school control, and feeling that he was hopelessly stupid She marveled that Tom had not exhibited downright delinquency in view of his disturbing classroom behavior and his obviously undesirable home conditions. This teacher, however, was persuaded to give the boy a further opportunity; and after having been shown that the mother was willing to cooperate with the school and clinic, especially in having Tom's physical condition looked after, the teacher modified the program for him. In a relatively short time Tom's academic achievement appreciably improved.

Contrasted to this is the case of John L., who was seen in the I U Psychological Clinic several times. He was referred by the school principal with the very positive notation that he was hopelessly retarded and should without question be transferred to the special school. Fortunately, it was possible for his family to move to another school district where after a year or so this boy was doing adequate academic work. But even after this change had occurred the principal of the first school still insisted that John was the lowest-grade boy they had ever had in his school.

On the other hand, many teachers having a real interest in children, or even in a specific child, have been decided factors in the guidance of the child's whole life The author is acquainted with a young university professor whose whole career has dated from the

inspiration and counsel given him by a mathematics teacher in high school.

We may summarize by pointing out again that the teacher represents, from the point of view of the child, the most important factor in his whole school life. Since this is so, it is evident that teachers must be trained to think in terms of their children and not in terms of their subjects

Another problem which frequently appears in the child's school history is changing from one school to another. To a certain extent such changes reproduce in part the situation that the child had to face when he first entered school. He must readapt himself to new classmates, to new teachers, to new school rules and regulations, and often to new methods of teaching and standards of achievement. Such changes often result in poor school work and even lack of promotion. Blanchard (1928) found, in the case of a boy referred because of daydreaming, absent-mindedness, poor memory, and failure in seventh-grade work, that probably one of the most important factors was the school changes which were frequent in the boy's early school history (See Case Number 15.)

Kanner and Lachman (1933) illustrate another possible effect of changing schools. This time a nine-and-a-half-year-old boy developed what appeared to be asthmatic attacks. While there were a number of pertinent factors in the history, it is interesting to note that the attacks began only following a change in residence of the family which necessitated transference to a new school. The boy was uneasy and unhappy about this disturbance of his established associations and objected to the longer distance he had to go to the new school.

It is quite probable that for many children a similar condition ensues with the change from grammar school to high school. Entrance to high school usually means contact with an entirely different school program, and with individual classmates from a still wider geographical area. Similarly, the change from high school to college also introduces decided new factors. In these transitional periods the child should be unobtrusively but carefully watched and sympathetic guidance given whenever there is the suggestion of too great difficulty in making the new adaptations.

There are a number of situations in the school life of the child which frequently give rise to difficulties. Within the school there may frequently be antagonism between the pupil and the teacher, between

the child and his classmates because of differences in race, socio-economic status, religion, in conventions and standards, prejudices, etc. Physical conditions in the way of bodily defects or illnesses, or lack of such material things as clothing or books may cause the child to feel himself inferior to his classmates. Sometimes—all too frequently, in fact—classes are much too large for the teacher to give special attention to the child who exhibits some deviations, even though she is skillful enough and willing to do so. There are also conflicts because of the curriculum. For the normal child, not necessarily feeble-minded, the ordinary classroom work may sometimes be pitched a little too high. He soon finds that he is unable to compete successfully and so becomes discouraged and finally resentful of the forces which compel him to remain in such an undesirable place. On the other hand, the superior child may find the work entirely too easy. He does not develop adequate study methods in the lower grades and so has difficulty as he advances and the competition becomes keener. Also he becomes bored with the work, finds nothing in it to stimulate him, and finally turns elsewhere for the satisfaction that he misses in school.

Other Influences—There can be no doubt that, next to the home, the school affords the growing child more stimulational opportunities than any other single agency. However, it is necessary to call attention to other influences that may be important in certain cases.

The neighborhood in which the child lives is probably, after the home and school, of greatest influence, and in some cases may be more important than the school. Shaw (1929) has shown that delinquency rates are higher in disintegrating neighborhoods, i.e., those where residential sections have given way to industry. The quality of the neighborhood is some indication of the economic status of the family. Furthermore, the facilities for recreation afforded by the neighborhood greatly influence the child. Saloons and pool halls are not the most wholesome congregating places for children or adolescents. Playgrounds under school, church, or community auspices are quite probably of decided value. In our discussion in subsequent chapters we shall point out more specifically possible neighborhood influences.

Companions are also of importance to the child's development. They are important for the young child making his first social contact outside of the home; in fact, they are important for the child at all ages. Nevertheless, companions may be the immediate reason for miscon-

duct. Probably not more than twenty per cent of juvenile delinquents engage in their anti-social behavior while alone. Moreover, personal difficulties may arise because of inadequate companions, as for example the effeminate boy who has opportunity to play and associate only with his sisters or other girls. Lack of companionship often results in selfish behavior or other asocial traits.

TREATMENT

In the first chapter it was pointed out that the psychoclinician is seldom able personally to carry out his recommendations for the management of problem children, but there are some occasions in which he may deal directly with the child in a therapeutic manner. In some cases a specific retraining program may be necessary, e.g., for correction of articulatory speech defects, or for improvement of skills in the tool subjects, which the psychoclinician may carry out himself. Even here, however, the assistance of trained teachers and the parents is probably desirable, and may be necessary. In the class of indirect primary behavior problems the child must be worked with directly. Here there is frequently need for environmental changes, but it is also necessary to attack the disturbing attitude or conflict, and this can be done only by dealing with the patient. In this section we shall discuss in a general way the management of primary behavior problems, and in later sections point out specific measures in connection with particular complaints.

The child who appears in a psychological clinic is maladjusted, socially or personally, in a mild or severe degree. The first task is to discover the seriousness of the maladjustment, as specifically as possible its nature, and to formulate a reasonable hypothesis as to the reason for it. When these things are done a program of treatment, designed to help the child readjust, may be outlined. This sequence is necessary in any of three major groups of problems. However, there are limitations imposed on what course the psychoclinician may take when the problem involves mental or physical disabilities. Management of the first of these we have considered in Part II. When physical conditions are present the first therapeutic measures must be medical or surgical in nature. If psychological problems are involved, they can be dealt with only after correction of, or recognition of the impossibility of correcting, the physical disturbance. In the latter case

it may be necessary to help the child make satisfactory adjustments to the physical handicap itself

Primary behavior problems by definition do not involve questions of mental or physical disability. As earlier pointed out, such problems arise as the direct result of the child's culturalization, or they may be symptomatic of conflicts which result from cultural influences. In the first of these circumstances we have said that the child exhibits a direct primary behavior problem, and in the second that his problem is indirect. This distinction is useful not alone from the etiologic viewpoint, but also as a starting point in therapy. ✓

In one cultural milieu—the home, school, gang, neighborhood—the child has formed habits in the manner of specific skills and acts, or in a broader “way-of-behaving,” that are unacceptable to other cultural groups. Thus the boy in Case Number 33 formed his stealing skills under family tutelage and in that cultural milieu his behavior was not a problem. Outside of that narrow environment, in school or in the community at large, his behavior was unacceptable. It is this type of problem that we think of as direct. In its essential nature this sort of behavior is poor habit. Therefore, to correct the problem it is necessary to follow a program of reeducation in the formation of new and more desirable habits.

To do this, the first necessity is to change the cultural milieu which has been responsible for the present behavior. This may be effected in some situations, as in problems of eating, sleeping, elimination, obedience and others particularly associated with the home, by a change in the methods used by parents in discipline and training. Thus, the mother must avoid concern over her child's failure to eat according to her arbitrary standards of quantity or kind; the father must not demand immediate response to his every arbitrary command; over-attention must be avoided when the child does not go to sleep; opportunities must be allowed for the child to play with other children, in short, attention should be paid to the parents' methods of child training and these must be changed when they are inadequate. It is evident that many problems could be avoided if proper child-training methods were known and used by parents. Thus, prevention of problems is a primary reason for parent education, but the psychoclinician is faced with the more difficult task of changing the behavior and often firmly held beliefs of parents. This task requires not only a thorough knowledge of the psychology of child

training, but also the ability to apply it in specific instances, and tact in making parents understand. Therapeutic attempts in this direction absolutely require the full cooperation of the parents.

In many cases it is not possible to deal with the problem through the parents in the manner just suggested. The parents may be too stupid or ignorant to understand, they may be unwilling to give up cherished beliefs, or to admit the inadequacy of their training methods by changing them, or they may not recognize that the child's behavior is a problem. Faced with situations such as these, the psychoclinician cannot hope to get the absolutely necessary parental cooperation. Without this there is little hope of success, and perhaps serious question whether continued effort should be expended. As an alternative to trying to work through uncooperative parents, complete removal of the child from that environment may be desirable. Unfortunately, it is easier to write or talk about doing this than it is actually to do it. If the parents are willing, the child may be placed for a period in a foster home, a residential school, or even a hospital, and here a retraining program must be carried on. If the parents are unwilling to have the child leave home, it is possible in some instances to remove them by legal action. This can be done only if neglect or contributing to delinquency can be proved. As this is usually hard to do, the possibility is of significance in only a limited number of cases.

This in general terms is the therapeutic program for direct primary behavior problems. In brief, the program calls for changing the cultural milieu with parents' cooperation or by removal of the child from the home, and in the new milieu carrying on retraining in more acceptable behavior habits. Details of the retraining must be determined in respect to the actual behavior, the length of time it has been exhibited, details of its development—in short, in terms of the particular child's history.

To a limited extent a program as just outlined may also be serviceable in dealing with indirect behavior problems. The direct reconditioning of fears has been successfully accomplished. Withdrawing behavior may be helped by careful increase in opportunities for social contacts. Daydreaming habits may profit by opportunity for more direct contact with things. Inferiority feelings may be overcome by success. Thus, change in cultural milieu and reeducation may be helpful in dealing with personal maladjustments, even without any

particular attention to the child's conflicts or attitudes. This is especially true with young children, when the constantly changing matrix of personality is easily influenced.

While in some cases of indirect behavior problems change of environment and reeducation alone may resolve the difficulties, and while in all cases these technics are of value, in most cases resolution can come only through overcoming or dissipating the intermediate attitude or conflict. It may be well to describe again our view of the etiologic sequence in indirect problems. The starting point is again the environment or, perhaps more accurately, the cultural milieu. The cultural milieu in this sense may consist of as few as two persons. Thus, the mother and child or father and child may constitute two such cultures within the family. Any combination of either parent with siblings and the child are also to be considered further cultural units. In the harmonious home these various cultural units coalesce into a larger cultural unit in relation to the child. With such harmony the development of behavior patterns and behavior equipment in the child is a resultant of the behavior patterns of the group—the child. If, however, the mother is over-solicitous while the father is domineering or even cruel, then the child's behavior equipment will reflect one or the other, or, as is more usual, will show a conflict or indecision that colors all further interactions. Similarly, sibling jealousy arises out of an actual or supposed cultural unit of younger child and parent in opposition to the interests of the older child. Lack of opportunity to react to new and larger cultural groups of playmates limits the child's ability to interact adequately with such large groups at a later age. Without such opportunities the child develops fears or inferiority feelings in relation to new groups. A cultural milieu which suppresses a child's activities or which belittles his achievements fosters feelings of inadequacy and inferiority. Many further possibilities of such influences will occur to the reader. The direct or immediate resultant of these culturalization influences are attitudes, points of view, emotional conflicts—call them what you will—which are evidenced in overt, grossly observable behavior. This may indicate passive acceptance shown by avoidance, withdrawing, non-socially disturbing behavior. On the other hand, the child may aggressively oppose or compensate for such feelings by gross behavior which is socially disturbing and

which by observation is identical with the conduct based upon direct environmental influences.

The most essential part of the therapy of indirect behavior problems is the effort to help the child overcome the intermediate attitudes or conflict. It must be clearly understood by the psychoclinician and by the patient that this can be accomplished only by the patient himself. The therapist may help by counsel and guidance, but without the full cooperation of the patient all of his efforts will be without avail. This necessity presupposes sufficient maturity and ability on the part of the patient for him to have some insight into his difficulty and the reasons for it. Very young children or feeble-minded persons are not open to such an approach. Fortunately, in the former group a cultural change and reeducation are usually adequate.

Dealing directly with the child by means of persuasion, suggestion, conversation and so on is the task of psychotherapy. The position of the psychologist in this field is none too clear. Exploration of conflicts and emotional stresses was first undertaken by the psychiatrists, and the various psychoanalytic schools have developed elaborate systems to explain the cause and effect of such conflicts. Even apart from this specialized technic, practically all modern psychiatrists take the field of so-called personality disturbances as their own. This has given a decided medical tinge to the whole problem. However, as the problems with which we are concerned have by definition no physical involvements, it is a little hard to understand why their treatment should be a specific medical province. Under actually existing conditions there are a goodly number of teachers, ministers, and social workers, as well as psychologists and psychiatrists, who are successfully dealing with primary behavior problems. Again we may point out that there is available at present no formal training specifically designed for professional workers in this field. In some respects professional training in psychology may be of greater value than professional training in medicine, in other respects medical training is extremely useful. Likewise, certain elements in the training of professional educators and professional social workers are of decided importance in the training of professional clinical psychologists.

An extensive accurate history is an essential part of therapy. With the history before him, the psychoclinician must formulate an hypothesis concerning the nature of the problem. Are the important etiologic elements of such a nature that persuasion or suggestion is all

that will be necessary? Or is some episode in the child's life apparently of importance, yet the child sees no relation between it and his present difficulty? Does the history appear to give only superficialities, but at the same time suggest possibilities that have been forgotten?

The child should be questioned in order to secure his account of the difficulty. The questioning should not be too detailed or too insistent. Give the child opportunity to tell his own story in his own way. Search for emotional or conflict episodes antedating and post-dating the onset of the present difficulty. Attention should be directed to possible relationships between early experiences and the present difficulty. When pertinent episodes are revealed, help the child to fit them into his general life pattern, instead of setting them aside to become disturbing factors.

The application of such a technic as this is well illustrated in Case Number 47. Here the girl was encouraged to recall emotional experiences. After much hesitation she told of the frightening family quarrels, the effect they had upon her, and how she had tried to suppress all remembrance of the affair. An analogy between her grief over her parents' quarrels and her grief over her grandparents' deaths was pointed out to her. To the latter of these she had adjusted satisfactorily because she faced it and thought about it, and after a time she forgot her initial agony. She was encouraged to take a similar course of action in regard to her parents' quarrels. Even after a week or two during which she took this advice, her symptoms disappeared, and her whole attitude toward school and home was changed.

This sort of technic is probably of little avail with children much younger than eleven or twelve years of age. As we have mentioned, personality problems in children younger than this yield frequently to an attack on the environing factors. With children in late adolescence and with adults the relatively superficial therapy here briefly outlined would probably seldom be sufficient. However, we cannot undertake to discuss the more specifically psychiatric or psychoanalytic technics which may be necessary in dealing with more profound disorders than are usually found in children.

Chapter IX

CONDUCT PROBLEMS

CONDUCT problems are those which, from the point of view of an observer, are merely socially disturbing or more seriously anti-social. In our discussion of classification in the previous chapter this differential was indicated as the one used by Paynter and Blanchard and by Ackerson. There is no doubt as to its practical usefulness. However, the psychoclinician must keep clearly in mind that calling a certain form of objectionable behavior a conduct problem does nothing to indicate its essential nature. It is for this reason that we have insisted that a classification of children with problems, rather than of the problems themselves, is of greater clinical usefulness. But the requirements of textbook organization appear to be better met by the less useful clinical classification.

The immediate reasons for conduct problems may be (1) the habit training and culturalization of the child, or (2) a personality attitude which affects all of the child's interactions. Children whose histories indicate training and culturalization to be the most important etiologic factors have a direct primary behavior problem. Those whose histories show the important influence of disturbing attitudes have an indirect primary behavior problem. The disturbing attitude, or personality influence, directly arises from environmental circumstances. The formation of these attitudes is intermediate between environmental influences and the behavior sequels. When the behavior sequels are socially disturbing we have conduct problems belonging to the indirect group. In the subsequent discussion of certain frequently occurring problems we have considered both of these types of etiology.

We may distinguish several groups of conduct problems on the basis of the seriousness of the social disturbances. First are those forms of behavior which are most frequently observed and objected to in the family group. These include problems associated with eating, elimination, sleeping, and sex; "nervous" habits of body manipulation; anger displays or temper tantrums; and problems of play and

companionship Secondly, we may list problems which are important in connection with the home, but which also have wider social significance. These include such behavior as lying, swearing, fighting, destructiveness, bullying, cruelty, etc. The third group of problems are those which are of serious social significance because they violate legal requirements and therefore are broadly anti-social In the following sections of this chapter we shall discuss several of the more frequently occurring problems in the first two divisions, and reserve the third division, juvenile delinquency, for the following chapter.

FEEDING PROBLEMS

Complaints concerned with feeding difficulties are among the most frequent ones made to physicians or psychological clinic workers Kanner (1935) reports that 20 per cent of the patients referred to him for psychiatric advice had feeding problems. In Ackerson's (1931) group of 5000 clinic cases, 18 per cent were found to have feeding problems, while among the pre-school children reported by Tilson (1929), 28 per cent were found with this sort of problem. Bartlett (1928) found the commonest complaint among 1471 outpatients on pediatric service to be anorexia Of these children, 349, or about 23 per cent, showed poor appetite. In 34 per cent of this group, no physical cause could be found These figures from clinic cases are in fair agreement The Committee on Nutrition of the White House Conference (1932) estimates that 50 to 90 per cent of all children beyond the age of infancy exhibit feeding difficulties These percentages are estimates and would include many children with organic disorders who would not be referred to a psychiatric or psychological clinic, and also many children who present the problem at home, but whose parents never seek outside help

In the classification of problems given in Chapter VIII, the following types of problems associated with eating were mentioned

- 1 Poor appetite (anorexia), including refusal to eat, and food whims
- 2 Excessive appetite
- 3 Perverted appetite (pica)
- 4 Undesirable eating habits, such as careless table manners, gulping food, dawdling over meals, etc
5. Gagging and vomiting

The etiologic factors in all of these difficulties are essentially similar, in fact, the complaint themselves are often associated. In dealing with any of these conditions every effort must first be made to rule out the possibility of organic causes. Here again the physician's diagnosis and treatment must precede any efforts of the psychologist. On the other hand, it must be recognized that often these conditions are of purely psychological origin, and that medication for a non-existing organic condition may be more harmful than beneficial. Psychological causes may, in general, be traced to a lack of training in eating habits, to over-solicitous attention to the child's eating, or to emotional arousals associated with feeding or other conditions in the home.

Poor Appetite or Anorexia.—Poor appetite is probably the feeding disorder concerning which there are the most frequent complaints. Patients are variously reported: "not to seem to want to eat at all," "won't eat cereals, potatoes, or any of a long list of foods," "he has to be forced to eat," "has to have special foods prepared," "refuses to eat unless someone feeds him," and so on, along the same general line. Two reasons may be suggested for the complaints, not for the condition. Thom (1927) points out, first, that the appetite is an index of health and is recognized by the layman as such, and, secondly, that parents are perhaps too much influenced by widespread norms of physical development. In connection with the first of these, a sudden change in a child's appetite is quite properly a danger signal to be investigated, but anorexia existing from practically the time of weaning is more probably of psychological origin. The blind attempt to meet average norms for height and weight is a demonstration of the parents' lack of understanding of the real meaning of such norms.

The causes of poor appetite are summarized in the following list based on that by Aldrich (1926):

I. Psychological causes

A. In the child

1. negativism
- 2 means of gaining attention
- 3 means of gaining any desires
4. temporary interest in other things
5. imitation of parental or sibling patterns
- 6 part of "spoiled child" picture
- 7 interference of a general restlessness

8. unhappiness or other moods
9. daydreaming
10. fussy habits in food likes and dislikes
- B. In parents or other persons in charge
 1. inconstancy in methods of training feeding habits
 2. too many attendants with different methods
 3. inadequate methods of handling in general
 4. lack of purpose—haphazard or no method
- C. In technic of the meal
 1. forced feeding
 2. nagging as a means of stimulating to eat
 3. over-solicitude in relation to the meal
 4. stunts or stories as rewards for eating
 5. excitement preceding or during the meal
 6. too much discipline, especially in relation to manners
 7. unpleasant surroundings during meals
 8. dawdling over meals permitted

II Physical causes

A. Disease processes:

1. infectious—practically all, acute and chronic
2. organic pathology—especially of heart, lungs, and kidneys
3. teething
4. anemia
5. disturbance of functions—endocrine, coeliac, secretory and motor disturbances of stomach
6. mental disease
7. malignant tumor

B. Hygienic

1. lack of fresh air
2. lack of exercise
3. lack of sunlight
4. lack of sleep

C. Dietary

1. over-feeding—in general, or with one food
2. too short intervals between meals
3. eating between meals
4. too much food rich in fat, or in sugar and starch
5. lack of vitamins
6. constipatory diet

Lucas and Pryor (1931) add to the physical causes the finding

that anorexia appears to be associated with a linear build, high metabolism, and obstinate constipation. Mohr (1928) says that when all cases with disease, organic incapacity, or improper food are eliminated there still remains a large number where the causation is evidently psychological. The Nutrition Committee of the White House Conference (1932) points out that physical causes could not account for all of the anorexia and, furthermore, that the condition is seldom found in children whose homes are free from undesirable psychological factors. Further evidence is found in the almost unfailing therapeutic effect of change in environment.

An interesting study of home factors and poor appetite has been carried out by Roberts (1929, cf. also Morgan, 1934). Children from well-to-do homes, from farms, and from the poorest section of Chicago were observed at meals. Of the well-to-do children, 65 per cent showed lack of hunger in varying degrees. Among the farm children 38 showed a similar lack. In contrast, only 14 per cent of the poor children could be classed as not-hungry. Among the well-to-do children 40 per cent had to be coaxed to eat, whereas this was true of only 5 per cent of the poor children.

Excessive Appetite—Ravenous appetite is uncommon among mentally normal children. It is sometimes found among the feeble-minded as a usual form of behavior. Satiation of the appetite is largely learned, and some individuals fail to learn "when to stop." This may be true of children because of inadequate training, or because of imitation of their elders. The excessive eating associated with some periods of growth, or with exercise, or with merrymaking does not concern us. Kanner (1935) mentions the pathetic, yet amusing, excessive eating complained of by mothers whose children eat more than the family can afford to supply.

Perverved Appetite or Pica—Enjoyment in eating dirt and debris is found more usually in young children or in the feeble-minded, especially of the lower grades. Kanner (1935) describes thirty cases, only one of which was as old as four years of age. The children ate such things as dirt, sand, rags, string, coal, ashes, paper, paint, wood, stones, match heads, garbage, soap, plaster, bugs, flies, etc. While it is not unknown for perfectly normal children to eat such things in a somewhat experimental manner, the reports on these children frequently say that the child refuses other food, or prefers the unusual food. As this habit occurs practically always in young children, the

prognosis is good, provided the child is of normal intelligence and steps are taken to prevent his continuing the habit. This may mean merely close supervision of the child and keeping such foreign materials out of reach, or it may require temporary residence in a boarding home, hospital, or institution.

Undesirable Eating Habits—Parents sometimes complain of poor eating habits exhibited by their children. Perhaps the most serious of such habits from a psychological point of view is dawdling over meals. Usually this is associated with poor appetite and food finicalness. Spending more than the usual amount of time in eating a meal may result from distractions presented by the environment or by the child's own imagination, or from the child's inability to talk and eat at the same time, the desire to talk being greater than the desire to eat. Perhaps a more frequent reason for dawdling is the desire for attention that can usually be satisfied in this manner.

Other undesirable habits include bad table manners, sloppiness, carelessness, gulping, and eating noisily. These are obviously all matters of training, and satisfactory behavior can be expected only if both parents set a desirable example. On the other hand, such complaints should be carefully investigated by requiring a detailed account of the child's behavior. Some parents (especially mothers) set standards so high that the six- or eight-year-old can hardly be expected to meet them.

Vomiting—Vomiting is a common disease symptom in children; therefore, in dealing with this problem any possible physical cause must be eliminated by a careful medical examination. Vomiting not resulting from organic causes may be a habitual form of behavior, or a symptom of emotional stress. Probably the latter is the more frequent. Situations in which vomiting occurs may be associated with feeding, emotional states, personality disorders, or imitation of others. Vomiting at feeding time may be caused by an emotional state resulting from the mother's attempts to make the child eat; after several such experiences the child may vomit at nearly every meal as a protest, and the habit may become fully developed. A similar use of vomiting as a protest or to attract attention occurs in many situations other than eating. When no physical cause is found, therapy should be directed to the psychological problem, the vomiting being considered a symptom which will clear up when the underlying problem is solved.

Management.—Prevention of problems in eating is much simpler than correcting them, once they are established. Training in eating should begin early, in fact, it may be started while the infant is still nursing. Feeding periods should be periods of quiet, the diet should follow the doctor's orders. With weaning and the introduction of solid foods, the possibilities of problem behavior beginning are enhanced. As the child has well-developed sucking movement, but little else, he is apt to suck solid food and actually force it from the mouth. In itself, this is of no consequence, but often mothers take it as refusal of food, or they fear the child will not get sufficient nourishment—in either case they react with anxiety and over-solicitude which tends to make the mealtime one of emotional tension. As the child grows older new foods are introduced; sometimes he objects to the new taste or texture and refuses the food. Such objections will be reduced if new foods are introduced in small quantities when the child is very hungry, e.g., at the beginning of the meal. It is necessary also that the child shall not know what other food is to come. Blanton and Blanton (1927) say that such refusals should never be permitted, but that all other food should be withheld and the new food offered again without anger or other emotion. Of course, this is not true of those foods to which the child has an allergic reaction. Davis' (1928) famous experiment in allowing children at weaning to select their own food showed that they would select quality and quantity sufficient for their dietary needs. Once food likes and dislikes have been established, one might expect self-selection of foods to be undesirable from a nutrition standpoint. However, this was found not to be true in an experiment carried on at the James Whitcomb Riley Hospital for Children. While the child should be expected to try new foods and to eat the food offered, the mother should on occasion allow him his choice. Demanding that the child eat a standard amount of food at every meal is unreasonable, for the child's appetite varies from time to time as does an adult's, and no one would expect an adult to follow a monotonously similar program of eating. Well-prepared and appetizing food, quiet, cheerful mealtimes, no excessive insistence on conformance to superficial table conventionalities, plenty of time to eat, but not an excessive amount, are all of value in the building up of good eating habits. Aldrich (1926) gave the mothers of his infant patients directions for training in feeding, the chief one being never to force the child to eat; the other sugges-

tions were similar to those already discussed. In a follow-up study of 200 children he found that 85 per cent had never exhibited any feeding problems.

The treatment of an eating problem for which no organic basis can be found, is to be directed toward the parent. Whether the poor eating behavior is due to a lack of training or to inadequate training, or is a symptom of a personality disorder, the therapeutic program should be essentially the same. Of course, in the latter case attention must also be directed toward resolving the personality difficulty. The usual finding in these cases is an extreme concern and solicitude on the part of parents, and the first step in therapy must be the changing of such attitudes. Coaxing, nagging, anger, spoon feeding, excitement, worry, etc., usually characterize the mother's behavior in relation to the child's lack of appetite or his finicalness. Meals are often prolonged, disturbing affairs. Unless the parent will consistently eliminate *all* of these, the prognosis for the development of good habits is poor.

First, the mother must learn that to miss a meal or two will not harm the child. Also she must learn not to interfere with the child's eating by word or act. When the parent is willing to cooperate by these changes in attitude, then an active program may be started.

- 1 Regular meal hours should be established and adhered to

- 2 No eating between meals should be permitted. In many cases, it may be necessary and desirable to feed the child five times a day—a light lunch, e.g., a cracker and milk, or fruit, in the mid-morning and mid-afternoon—or sometimes only an after-school lunch. These should be treated as regular meals and should be given every day at the same time.

- ✓ 3 Younger children, and sometimes older ones, should eat alone or with other children, not at the family table. This need be followed only in the first training period or as part of a therapeutic program.

- 4 Small portions of well-prepared food, whatever constitutes the meal, should be put on the child's plate. It is better to start with small portions and give extra servings than originally to serve too much.

- 5 A certain time—from twenty to thirty minutes—should be allowed for the meal; at the end of this time the food should be removed. However, clock watching as a ritual at mealtimes should be avoided.

6. If the child does not eat a certain kind of food, no comment should be made—adults do not always eat everything set before them, so it is hardly fair to ask the child to. If it is desired that the child eat a food usually refused, it may be served in a small portion alone, at the beginning of the meal. In doing this, it is better not to announce what will come next, or later—after all, if ice cream is to be served, the child will have little interest in spinach, carrots, or potatoes.

7. The whole program must be carried out in a matter-of-fact manner. No comment on the quantity or kind of food the child eats should be made. To describe a "matter-of-fact attitude" is difficult, but it is essentially analogous to that of a good hostess who sets well-prepared and attractively served food before her guests without comment. The guest accepts the food without comment—except perhaps commendation—and if there is food he dislikes he does not eat it, but neither does he remark about it. The child's behavior might well be analogous to that of the guest.

Change in parental attitudes and the institution of a program of retraining are the essential elements in therapy of psychogenic anorexia. The cases studied by Bartlett (1928) were selected as extreme because the loss of appetite had persisted so long that there were objective signs of malnutrition. This investigator found that the addition of fresh calf's liver, broiled beefsteak, and lamb's kidneys to the child's diet were successful therapeutic measures. Such additions should be made without special attention being directed toward them. Special diets and tonics may be necessary in some cases, but in most they probably increase the psychological problem involved. The success of reeducational therapy is well illustrated in Streit's (1931) description of a three-year-old-girl. From the time of weaning, and even before, she had been a decided feeding problem. Her father was a physician, and her mother an intelligent, capable woman. Every meal until the child was nearly three years of age was a long period of struggle in which she was fed, while in a partly reclining position, by her mother. Six weeks following a change of her environment to a 24-hour nursery school her eating habits were entirely satisfactory.

ENURESIS

In the infant, increased pressure from the accumulation of fluid in the urinary bladder is the stimulus for relaxation of the sphincter

muscles, and the accumulated fluid is voided. Control of this sphincter reflex is one of the basic tasks in child training and should be established at least by three years of age. The condition in which there is lack of voluntary control of micturition after three years of age is known as *enuresis*. The more frequent type is nocturnal enuresis, or bed-wetting. There are some children who exhibit lack of control during the day (diurnal enuresis), usually, but not always, accompanied by nocturnal enuresis. The data in Table XXXIX show the relative incidence of the two types as reported by Kanner (1935) in an unspecified number of cases, and by Holt and Howland (1919) in 591 cases. These reports agree on the relative infrequency of diurnal enuresis.

TABLE XXXIX.—INCIDENCE OF TYPES OF ENURESIS

| | Kanner (1935) | Holt (1919) |
|-----------------------|------------------|----------------|
| Nocturnal only | 63 | 34 |
| Diurnal only | 7 | 2 |
| Nocturnal and diurnal | 30 | 64 |

Data on the incidence of enuresis among children are summarized in Table XL. The percentages in different studies vary widely. We have attempted a rough grouping of these studies into those in which the children were presumably normal from a psychological point of view; those which were situated in clinics or hospitals, or in which the children had other psychological problems; and, lastly, those in which the children were referred to the clinic because of the first two groups is approximately the same, while the incidences in the third group are higher. From the data of this table, we may conclude that about 15 to 20 per cent of children exhibit enuresis.

Thom believes that enuresis occurs in the two sexes with equal frequency, and the data of Michaels and Goodman (1934) would appear to support this. Kanner (1935) reports that 62 per cent of his cases were boys and only 38 per cent girls. In contrast to this is Thursfield's (1923) report of a greater frequency among girls. Any data from clinics may be suspected because of parental hesitancy in reporting enuresis in girls.

Etiology—The causes of enuresis fall into three groups: (1) physical, (2) lack of training, and (3) neurotic or emotional disability. The first of these is probably of least importance. Holt and Howland

TABLE XL.—INCIDENCE OF ENURESIS

| Author | Description | Per Cent |
|--------------------------------|---|----------|
| Presumably normal | | |
| Townsend (1887) | 355 children | 21.5 |
| Ostheimer and Levi (1904) | 1657 children from pediatric service | 6.0 |
| Slingerland (1917) | Children from 78 child-caring institutions | 11.0 |
| Emerson (1917) | 136 normal children | 8.0 |
| | 100 well children in special home | 9.0 |
| Pese (1920) | Asylum children | 30.0 |
| Rosenow (1920) | 85 normal children | 12.0 |
| Muhl (1927) | 250 pre-school children | 20.0 |
| Lewis and Ostroff (1932) | 40 normal children | 80.0 |
| Michaels and Goodman (1934) | 214 girls from camp | 23.4 |
| | 223 boys from camp | 24.7 |
| Behavior problems | | |
| Beilby (1904) | About 900 inmates of a State Industrial School | 4-10 |
| Dunham (1916) | 800 nervous children (5-16 years) | 7.0 |
| Cumbal (1927) | Nervous children | 12-15 |
| Ackerson and Highlander (1928) | 3000 cases, Ill. Bur. Juv. Research | 23.0 |
| Healy, <i>et al.</i> , (1929) | 264 delinquents | 15.0 |
| Tilson (1929) | 225 cases from seven pre-school clinics | 35.0 |
| Lowery and Smith (1933) | 3599 cases from the Inst. of Child Guid., N. Y. (reason for reference) | 5.0 |
| Addis (1935) | 1705 child guidance clinic cases, London | 18.4 |
| Kanner (1935) | Harriet Lane Home, psychiatric service | 26.0 |
| Mentally retarded | | |
| Wodak (1918) | Retarded children | 41.0 |
| Rosenow (1920) | 253 feeble-minded children | 37.0 |
| | 144 border-line children | 22.0 |
| Partridge (1927) | Male inmates of Vineland Training School | 10.0 |

(1919) say that in 68 per cent of the cases no physical disability can be found, Woolcy (1931) suggests that the cause is non-organic in as many as 90 per cent.

Among the physical causes frequently mentioned are enlarged tonsils and adenoids, adherent prepuce, narrow meatus, vaginitis, spina bifida, endocrine disorders, malnutrition, anemia, rectal irritations, and highly acid urine, especially with insufficient fluid intake. There can be no doubt that such conditions as these, and perhaps other minor ones, may be the direct cause in some cases, and contributing or aggravating causes in many cases. The tenor of Kanner's (1935) discussion of the organic causes is essentially that while they are important in some cases, no one of the conditions mentioned above invariably results in enuresis. Bleyer (1928), from a clinico-therapeutic

study of 250 cases, reaches approximately the same conclusion. This author, however, proposes that true enuresis "is a disturbance of micturition in which the physiologic control of the brain is blocked by stronger stimuli which have to do with the nervous mechanism of the bladder." That condition which most clinicians call enuresis he would name "pseudo-enuresis" because it is a "mere perversion of habits in an irresponsible, usually neurotic, and often mentally defective child." Whenever physical conditions of possible etiologic moment are present their correction or improvement must be left to the physician.

Hereditary factors have been suggested as significant in causing enuresis. Recently a Russian investigator, Petrovski (1934), has gone so far as to claim that enuresis is a "recessive monohybrid hereditary disease," the anatomical basis of which is an anomalous bladder innervation. From a study of the genealogical histories of enuretics, Frary (1935) found that of 787 members of these families 239 were enuretic. She believes that enuresis is "a hereditary trait determined by a single recessive gene substitution." Although in essential agreement with Petrovsky, she does not suggest a possible anatomical basis. While one must admit the possibility of such hereditary factors playing a part in some cases, they probably have no part in many. Of course, parents frequently give as a reason for their child's enuresis, "Oh well, his father was the same way," or "The poor girl, she has just inherited her weak kidneys." Prognosis and therapy are better based on other etiology than this.

The remaining causes are apt to be so closely associated that it is difficult to separate them. In some cases, it is quite evident that the problem is simply the result of a lack of adequate habits. Such lack of habit development may, in turn, be due to several parental attitudes. The following conditions do occur and should be discovered in taking the history: (1) *Carelessness and lack of interest on the part of the parents.* Some parents, usually of low mental status, show no concern with the training of the child in toilet habits. Frequently bed-wetting is accepted as a familial trait, and judging from other members of the family, the parents believe that the child will outgrow it. Some children, even under such conditions, will do so; but from the point of view of their future welfare, it is not worth taking the chance. (2) *Low ability in the child* may make the training program longer and more laborious, so that parents will not exert sufficient effort. That training in toilet habits is possible in the feeble-minded is demon-

strated by every mentally defective child who has satisfactory habits—and there are many of them, as shown by incidences reported in Table XL. Probably the most elaborate study of the relation of enuresis to intelligence is that of Ackerson and Highlander (1928), who found no correlation; the distribution of I.Q.'s for a group of enuretics and a group of non-enuretics both followed the usual normal curve. (3) *Parental belief in heredity*, leading to a feeling of futility in attempting training. Kanner (1935) reports this pregnant statement of one mother "I did not do anything about it because it is inherited from her father, he was twenty-two when he stopped" (during war-time service in the army)! (4) *Lack of training facilities*. In some homes where the toilet is in the basement or back yard the parent neglects training because of the trouble and discomfort to herself or the child. (5) *Parental (usually maternal) over-solicitude*. Such indulgence is excused on the grounds that the child is too small, too delicate, ill, nervous, or the like. Such rationalization usually indicates the mother's unwillingness to have the child develop independence of her.

Aberrant personality or emotional conditions as reasons for enuresis coincide in part with certain of the factors enumerated in the last paragraph. Thus, parental over-solicitude and constant rationalizing or excusing the wetting are parts of the picture of child dependence upon parents. Without training and without even parental interest in the child's development of this socially desirable habit, one can hardly expect the child to show concern. Frequently the family's attitude, sometimes strengthened by the family physician, is that nothing can be done about the condition. The child soon adopts this same attitude, even though his lack of control is unpleasant in many ways.

Enuresis frequently appears in children from unstable homes and families. Pfister (1904) indicated a relative frequency of psychoneurotic and psychotic conditions in the ancestry of enuretics. Kanner (1935) reports the conditions indicative of instability, shown in Table XLI.

Such figures as these cannot be taken to mean that any one of these conditions is a direct cause of enuresis in a child. Rather they represent home circumstances that will probably be reflected in the child's total personality development and its distortions, of which the enuresis is only one symptom. This is reflected in the study of Michaels and Goodman (1934), who found enuresis, thumb-sucking, nail-biting, and temper tantrums to occur more frequently in combination than in isolation. On the basis of their study they say, "We believe that enuresis

TABLE XLI—FAMILY INSTABILITIES IN FAMILIES OF ENURETICS

| Condition | Per Cent of Patients |
|---|----------------------|
| Alcoholism in father | 25 |
| Alcoholism in mother | 2 |
| Serious emotional instability and social maladjustment of parents | 80 ✓ |
| Feeble-minded or illiterate parents | 21 |
| Major psychoses in parents, grandparents and collaterals | 22 |
| Suicide in near relation | 4 |
| Epilepsy in family | 7 |
| Criminal records, parents or siblings | 10 |
| Broken homes | 27 |
| Sex delinquency of parents | 4 |
| Illegitimate child | 6 |

is a reflection of an ill-balanced personality, rather than an independent, unrelated, and insignificant manifestation" Kanner (1935) also finds other personality and conduct disorders occurring frequently among enuretics.

Lack of bladder control may be an indication of other personality conditions. For example, bed-wetting or clothes-wetting is often an indication of fear. Also it may be used as an attention-getting device, because the child finds it a sure way of getting attention, even though such attention may be a scolding or painful punishment. Resentment or spite toward parents or nurses may be expressed by wetting because the child realizes that this act causes them discomfort or embarrassment. Lewis and Ostroff (1932) found that temporary bed-wetting was induced by merely changing the child's sleeping arrangement.

An interesting case of lack of bladder control was seen in our clinic at the James Whitcomb Riley Hospital. The complaint was that this fourteen-year-old boy experienced frequent need of voiding in public places, especially church and theaters. There were no medical findings to account for the complaint. The boy said that following an illness two years earlier, he had had an intense fear of strange public places; this fear had a diuretic effect. Although the fear had disappeared he still had strong feelings of having to urinate. He had never been a bed-wetter, never had any unusual desire while at home or at school. At the time of writing, therapeutic measures have just been started so that nothing can be said of their outcome.

Enuresis caused primarily by lack of training may become an important etiologic factor in the development of personality disorders. With recognition that his bad habit is not usual, and especially with the

attitude of the family being one of hopelessness, the child suffers from discouragement and embarrassment. This may lead to a withdrawing type of personality, which, in turn, may become a serious interfering factor in attempts to correct the condition.

Diurnal enuresis is usually, and the nocturnal form is occasionally, due to carelessness and inattention on the part of the child. Wetting during the daytime occurs more frequently when the child is engaged in some very interesting activity alone or with other children. Bed-wetting occurs at times because the child dislikes getting up.

It is evident from this discussion of etiology that no plan for treatment should be entered into without first securing a detailed history. The history must be organized to reveal the presence of any or all of the specified etiologic factors.

Management—Prevention of enuresis should be the first aim. This can be done only by an active training program. Most handbooks for parents advise beginning training for toilet habits, especially bowel control, as early as two months of age. While bladder control is more difficult to establish, there is some of this training involved in the training for bowel control. Specific training for urinary control should start by nine months or one year of age. The following points afford a guide for this training:

1. As frequently as possible, put the infant on a suitable receptacle at the most probable time for urination as determined by keeping a record of urinations for several days.
2. Keep the infant as dry as possible so that he continues to react to wetness as uncomfortable. This means frequent changing of diapers at first, but is less troublesome in the long run.
3. Teach the infant to make some sign, preferably a short word, when he needs to urinate, and to use this sound consistently.
4. Praise the child from the first for voiding under the desired conditions. Avoid scolding or punishment for failure to do so.

Training for dryness during the night takes longer than the training for daytime dryness. The latter should be started first, and some attempts directed toward the former early in the second year. The child should be taken up about ten o'clock—earlier if found necessary—and again at midnight, and be placed upon the toilet seat as soon as he wakes in the morning. Exact times of arousing him during the night will depend upon the child. Some children void immediately before going to bed and then need to be taken up within one or two hours;

some do not require to be taken up at midnight. A time schedule should be worked out on observations of the child during several nights.

The clinician is usually faced with a fully developed problem so that his task is to advise procedures for correction. The first step, regardless of any possible factor discovered in the history, is to have a complete and adequate physical examination. When anatomical or physiological conditions are noted which might be aggravating the condition, they must be corrected by surgical or medical attention. Change in the diet may be indicated. Blanton and Blanton (1927) advise putting all cases of enuresis on a concentrated diet (bread, butter, cereals, potatoes, meat, eggs, and small amounts of bulky vegetables) with a restriction of liquids (no soups and only one glass of milk a day) for a few weeks. Thom (1927) says the diet should be bland and above all should avoid highly seasoned foods. Krasnogorski (1933) suggests food with a high water content early in the day and low in water late in the day. He also suggests sufficient salt late in the day to keep water in the tissue but not enough to produce thirst.

For most cases without physical abnormalities, or after they have been corrected, a definite training program should be instituted. Such a program should include the following points:

1. Restriction of liquids at the evening meal. No liquids after this meal. In some cases it may be well to allow the child a tablespoonful or two of water at bedtime.

2. Thoroughly awaken the child at ten o'clock or about two hours after going to bed, and have him void.

3. A second arousal at two or three in the morning. In some cases several awakenings and voidings may be necessary at first. On each occasion the child should be th-

4. The use of star charts . . . graphic records has proved eminently successful. Stars or other marks are awarded for each dry night.

5. The interval between awakenings should be gradually lengthened. For example, if the morning time has been 2.00, it may be changed to 2.30 and later to 3.00. The ten o'clock time should be retained longest of all.

The most important thing in any attempt at reeducation or psychotherapy is gaining the cooperation of the child, and his confidence that the bad habit can be overcome. With pre-school children this

may not be so necessary because they are often still in the original training period. In the case of older children the clinician should frankly talk over the problem with the child and get his reactions. In many cases, the child's attitude merely reflects that of the parents, and this must be changed. Kanner (1935) relates one case of a six-year-old whose problem spontaneously cleared up during the treatment for enuresis of her fourteen-year-old sister. In the course of treating the older girl the family's attitude was changed and this was sufficient to correct the habit in the younger child. There may be occasions when active attempts to secure the child's cooperation are not the best procedure. Thom (1927) tells of one boy for whom every conceivable method of treatment had been tried, except completely ignoring the problem. The boy was seen twice in the clinic without any reference to his bed-wetting; on the third visit he brought the matter up himself. The doctor casually said that he knew the boy wet the bed, but that as soon as the boy decided to stop, the difficulty would disappear. Without further comment on the problem, the interrupted conversation was continued. One week later the boy proudly reported that he had not had a wet night.

In those cases where the enuresis is associated with fear, resentment, strain, etc., such conditions must be relieved. This may require a complete change of environment, and the removal of emotion-provoking stimulation. Suggestion has been used as a therapeutic measure. Siegl and Asperger (1934), after gaining the confidence of parents and child, used a bitter dose as the vehicle of suggestion. Friedell (1927) reports a high degree of success with "psychic treatment" when the treatment consisted of a hypodermic injection of sterile salt solution.

SLEEP PROBLEMS

The physiology and psychology of sleep are subjects about which much has been written, but little is understood. We may think of sleep as a form of behavior characterized by a minimum of psychological interaction, and during which there is opportunity for physiological recuperation of fatigued organs. The physiological aspect is most evident in very young infants, when growth and metabolism are extremely active and the need for recuperation therefore great. With increasing age this need is reduced, although it never entirely disappears. The infant sleeps most of the time; but with the decreasing physiological need of sleep at older ages, the hours thus spent are re-

duced, and a rhythm of waking and sleeping is established. It is in connection with this rhythm at a later age that problems arise.

Theoretical normal amounts of sleep desirable for children of different ages have been estimated by various authorities. These estimates have usually not been based on actual observation of healthy children, because when such studies have been made, they do not agree with the estimates. Faegre and Anderson (1929) remark, in connection with the study of sleep made by the Institute of Child Welfare of the University of Minnesota, that either the estimated norms are too high or the children studied are getting too little sleep. However, from other evidence the second of the alternatives does not appear to be true. In Table XLII are summarized several of the theoretical estimates and a number of reports of experimental observations. In the last column of the table we have essayed a set of norms approximating the average or median figure of the observational results. It must be remembered that all of these figures are averages and that any given child may require more or less sleep in order to be in good health.

The times given in the table represent the total amount of sleep in twenty-four hours. Below three years of age part of this time is spent in morning or afternoon naps. The daytime nap for most children is stopped between three and six years of age, usually at the instigation of the child. Whether or not the daytime nap is necessary must depend upon the particular child. If he shows no signs of fatigue or other effects of lack of sleep, if his health and behavior remain satisfactory, there would appear to be no need for insisting upon sleeping during the day. Until the child starts to school he should lie down and rest for at least a short period each day. During the rest period he may be allowed to read or engage in some other quiet activity.

Sleeping problems are concerned with the adequacy of the amount and quality of sleep that the child gets. For the purpose of discussion we may enumerate the following problems:

1. Wakefulness
2. Restlessness of sleep
3. Dreams
4. Abnormal drowsiness

Wakefulness—Wakefulness usually occurs in connection with going to sleep, but it may occur after the child has once been asleep. In the infant, sleeping is fundamentally physiological. His sleeping and wak-

TABLE XLII—SUMMARY OF NORMS FOR TOTAL SLEEP OF CHILDREN

| Age | Estimates (in hours) | | | | | Observations (in hours and minutes) | | | | | Summary (in hours) | |
|-------|----------------------|----------------|-------------------|-----------------|------------------------------|-------------------------------------|--------------------|-------------------|------------------------------|----------------------------------|--------------------------|----------------------------------|
| | Dukes (1899) | Hess (1919) | Burnham (1920) | Brown (1926) | Seham and Seham (1926) | Terman and Hocking (1927) | Flemming (1925) | Hayashi (1925) | Chant and Blatz (1928) | Faegre and Anderson (1929) | | Reynolds and Mallay (1933) |
| 0-1 | | 16-18 | | 16 | 16-22 | | 15 05 | | | 14 45 | | 15 |
| 1-2 | | 12-13 | 12-14 | 15 | 16 | | 13 20 | | 13 42 | 13 14 | | 13 5 |
| 2-3 | | 12-13 | 12-14 | 13-14 | 15 | | 12 49 | | 12 45 | 12 43 | 12 30 | 12 75 |
| 3-4 | | 10-11 | 12-14 | 13-14 | 14 | | 12 30 | | 12 52 | 12 07 | 11 23 | 12 25 |
| 4-5 | | 10-11 | 12-14 | 13-14 | 13 | | 12 00 | | 12 07 | 11 43 | 10 57 | 11 75 |
| 5-6 | | | 11-12 | 13-14 | 12-13 | | 11 21 | | 11 30 | 11 18 | | 11 25 |
| 6-7 | 13 5 | | 11-12 | | 12 | 11 14 | | 9 55 | 11 16 | 11 04 | | 11 00 |
| 7-8 | 13 | | 11-12 | | 12 | 10 41 | | 10 04 | 11 03 | 10 58 | | 10 75 |
| 8-9 | 12 5 | | 11-12 | | 11 5 | 10 42 | | 9 49 | 10 35 | | | 10 5 |
| 9-10 | 12 | | 11-12 | | 11 | 10 13 | | 9 44 | 10 44 | | | 10 25 |
| 10-11 | 11 5 | | 10 | | 11 | 9 58 | | 9 15 | 10 32 | | | 10 00 |

and satiety, according to the studies of H. H. Karger (1925), and others. With increase in age sleeping becomes more of a psychological activity and the child must learn to go to sleep. This process requires, according to Kleitman (1929), a relaxation of skeletal musculature. Relaxation in turn can result only if attention is diverted from external stimulation, especially of the distance receptors, vision and hearing. Another condition of relaxation is the absence of exciting and diverting "streams of thought." To achieve the necessary relaxation and thus to get to sleep requires time. In children, while they may go to sleep much quicker, at least 20 to 30 minutes from the time of going to bed to the time of going to sleep may be considered normal. Wakefulness beyond this time may be due to a number of causes.

Physical conditions, such as pain, may cause wakefulness. Environmental factors, such as too much light, lack of ventilation, noise—especially if it is loud or sudden—the body too hot or too cold because of the temperature of the room or the amount of bed clothes, are all common reasons why a child does not go to sleep. Most of these conditions result in temporary wakefulness and are not ordinarily of concern in psychological problems, because in a large measure the psychological problem is characterized by consistent wakefulness night after night, and even when, from other evidence, the child is obviously fatigued. The child may quickly learn to sleep under any of the above-mentioned adverse conditions. While it is desirable to have good sleeping conditions, the child should not learn to sleep only where there is absolute quiet, absolute darkness, absolutely the right temperature, and so on. In other words, conditions in the household should be kept regular and normal and the child should learn to sleep under these conditions.

Wakefulness considered as a psychological problem is largely an unwillingness rather than an inability to sleep. As is true in so many problems, the unwillingness is largely due to parental mismanagement. For example, the child is called from an interesting activity, often boisterous, and put to bed. He hears the parents talk of their own difficulties in going to sleep. Some mothers say that the child will not go to sleep for hours, and that he asks for a drink, or to go to the toilet, or makes other requests—which they fulfill—but they do not recognize that the attention is what the child really wants. A two-and-a-half-year-old, who did not have a real sleeping problem, on one

occasion was unable (or unwilling) to go to sleep. He cried loud and long, much to his parents' irritation. Finally his father threatened as a last resort to spank him. After a short interval of silence his baby called, "Come up and spank me, daddy"! Going to bed and to sleep is often the occasion for a "scene" such as occurs sometimes at meals. There is coaxing and babying, then scolding and nagging, then anger—at least in the parents—while the child probably is delighted at the commotion caused.

Some children develop what Strauch (1919) calls stereotypias. The child can go to sleep only if he has a certain toy, or is in a certain bed, or some other factor is constant. Blanton and Blanton (1927) mention a five-year-old girl who was said to be an excellent sleeper. "This proved to be true if she had her own accustomed mattress and springs, her own pillow, a certain cover which she pulled partly over her face, a certain 'teddy-bear' which she held, a light burning in the room, and her mother at the side of her bed." Psychologically this child had as serious a problem as one who stayed awake and cried for attention.

Fear is a frequent reason for wakefulness. Fear of the dark, of being alone, of the parents' leaving, or of imaginary things, is found in the history of children who cannot go to sleep. As we have said elsewhere, fears are learned, and therefore the wisest course is to prevent their ever arising. If in spite of precautions they do arise, then they must be corrected before an improvement in the sleeping problem can be expected.

In some children wakefulness is a problem not in going to sleep, but in awakening after they have been to sleep. Children may be awakened by noises, a light, or increased bladder pressure, and the like, but this awakening is not a problem. When the child awakens for these or other reasons and cannot go back to sleep, then the problem is usually essentially similar in nature to the inability to go to sleep when first going to bed. In this intra-sleep wakefulness the reasons are essentially the same as those earlier discussed. There is an added factor, however—the increased quietness and darkness, for the rest of the family is in bed. This may add or emphasize elements of fear or loneliness and desire for attention.

Restless Sleep.—During sleep children are not immobile, as is often thought. Studies by Marquis (1933), Johnson (1931), Irwin (1930), and particularly by Renshaw, Miller, and Marquis (1933), show that at all ages there is an appreciable amount of motility during sleep.

The conclusion of the last of these studies may be briefly summarized. Each child, under undisturbed living conditions, has a characteristic hourly motility curve, which in general is not materially affected by environmental factors such as temperature, humidity, noises, or by variation in daily activity, or by diet. These curves may be modified by illness and emotional states, they show significant seasonal variations. Younger children sleep more quietly than older ones.

Such findings as these show that a certain amount of activity is normal during children's sleep. The average length of quiet periods for all children studied was about eleven minutes. Therefore, by restless sleep as a behavior problem we mean sleep rather violently disturbed. Such disturbances may range from general motility only little greater than that exhibited quite normally by all children, to flailing of the arms and legs, gritting and grinding teeth, head jerking, crying and screaming, talking, to full awakening and going back to sleep several times during the night. Restlessness may be caused by organic physical conditions or motor activity associated with dreaming, or it may be the night behavior picture of the child who during the daytime is hyperactive, restless, and excitable.

Dreams—Dreaming is as normal and characteristic of children as it is of adults, although increase in variety and detail probably accompanies increase in age and intellectual activity. In general, children's dreams directly reproduce activity of the day, or are of a wish-fulfillment type in which unsatisfied desires of the day are realized. Kimmings (1931), from an analysis of over 5000 children's dreams, is of the opinion that the wish-fulfillment element is of the most importance. The actual content of the dream may be affected by physical conditions such as indigestion, bladder distention, or a disturbed circulation.

It is probable that restlessness and activity during sleep are often a motor accompaniment of dreaming. Children cry, talk, scream, and sometimes smile and laugh during sleep, and there is evidence with older children that such behavior is part of a dream. Sometimes it is apparent from the direction of the sleepwalking or its persistence that wish fulfillment is involved. Graber (1934) has described the case of a ten-year-old boy who, almost nightly from the age of six years, had walked in his sleep to his mother's bed. Psychoanalysis indicated that this somnambulism was directly related to mother-longing.

Particularly severe and extreme types of activity during sleep that

are almost certainly associated with dreaming are so-called nightmares and night terrors (*pavor nocturnus*). These two forms of behavior have in common a prominent fear element, although they are otherwise quite distinguishable. Kanner (1935) has most adequately analyzed the differences, which may be briefly summarized.

Nightmare. This sort of dream is followed by waking during which the child recognizes his surroundings and can give a fairly coherent account of what has happened. There is usually no disturbance preceding the waking. There are no hallucinations, no perspiration, no amnesia for the incident or the dream content. The episode is rarely over a few minutes in length.

Night terror. The fearful dream is not followed by waking, and if the child is partially awakened he does not recognize his surroundings and may hallucinate the dream elements into the room. There is extreme motor accompaniment, disturbed features, sitting up in bed or even getting out of bed, screams and cries. There is usually perspiration. The child cannot be calmed during the attack, and following it he is amnesic for the episode and content. Duration may be from fifteen to thirty minutes.

The following description of a night terror in a six-year-old boy illustrates the problem. This boy usually slept quietly but had had two or three nightmares or night terrors, beginning about the age of five. On this one occasion the parents' attention was attracted by a sound, half moan and half cry. When they went into the room the child was sitting up in bed with his eyes wide open. He was perspiring sufficiently to make his sleeping clothes damp. When spoken to he did not respond, although he did make some unintelligible sounds. An attempt was made to quiet and waken him, but without success. After probably five minutes or so a wash cloth wrung out in cold water was rubbed over his face and neck. This treatment awakened him and in a few seconds he recognized his parents, but was unable to give any account of his dream. After being calmed by quiet assurances that everything was all right, he went back to sleep. In the morning he did not recall anything that had occurred.

Emerson (1935) says that night terrors "occur most frequently in nervous imaginative children between the ages of three to eight years." They may recur night after night. On the other hand, nightmares usually end in waking and are not so apt to recur regularly. Emerson

also says that nightmares "are more often associated with ill-health and with digestive disturbances."

Nightmares are probably more common than night terrors, which decrease in frequency with age and are rare during or after adolescence. Both of these forms probably indicate a pertinent personality aberration, particularly characterized by fear. The correction of the symptomatic behavior involves correction and elimination of fears. In acute attacks wakening the child and then gently calming him is perhaps the most useful procedure.

Treatment—The treatment of sleep disturbances, if the possibility of physical cause has been eliminated, should *not* depend upon sedatives. Proper training of the child would prevent the occurrence of most disturbances. From early infancy the child should be put to bed at a regular time, the lights put out, and be left alone. If later he awakens and cries, the parent should make sure that he is not wet, or otherwise uncomfortable, and then leave him. If the child learns that going to sleep is merely one of the many normal things that everyone does in much the same fashion day by day, the chances of problems arising are small.

If for some reason the problem has appeared, the correction should follow a similar plan. Going to bed, or sleeping when there, should be made merely a routine daily task, it should never be an occasion for emotional excitement. Prepare the child some minutes before bedtime by having toys put away, and then have a short period of quiet activity, e.g., reading of stories, provided they are not exciting. If the child has developed a fear of the dark or a closed door, or if he has learned to take a plaything to bed with him, it is wiser not to change these too suddenly, for the result may be that the child will become emotionally aroused. Over a period of time the light may be turned out or the toy taken away. After all, it is much less serious to allow a toy in bed, or to leave a hall light on, than to accentuate the child's fears.

Restlessness will usually respond to the regulation of evening diet and activity. Exciting dreams, nightmares and night terrors are probably more frequent if the child goes to bed too much excited from his evening's play, or if he is not in good physical condition. Calm words following the acute attack, and a program to eliminate fear at all times helps in combating these disturbances. Emerson (1935) says that sedatives should be used only when the attacks are severely disturbing the child's sleep.

Drowsiness.—The converse to the problems just described is found in some children. Parents complain that the child is always tired and sleeps too much, or that he falls asleep during the daytime. The cause of such drowsiness in otherwise physically healthy children is probably most often to be found in inadequate night sleep. The child goes to bed too late, or gets up too early, or both, so that he does not get sufficient sleep. Rearrangement of the sleeping schedule will usually produce good results. Kanner (1935) suggests that subnormal children, or children in certain types of communities or homes with very limited interests and activities, may sleep merely as a way of passing time. Certain physical conditions, especially malnutrition, may make a child constantly tired and therefore ready to sleep. Narcolepsy and encephalitis, both of which are discussed elsewhere, are associated with abnormal sleeping.

SEX PROBLEMS

Of all the behavior problems exhibited by children, those involving sex are perhaps the most disturbing to the parents, teachers and other adults. Our social culture has established such strict taboos on all sex matters that these problems are objected to out of all proportion to their actual seriousness. Because of this unfortunate attitude of parents and others, the psychoclinician must be especially careful, when dealing with these cases, not to assume any moral attitude. The child is not to be judged, but to be helped. Here, more so than in any other problem, our interest must be in what the child did and why he did it. All questions of whether his behavior is right or wrong must be avoided.

The most frequent sexual problem that occurs is masturbation. Heterosexual and homosexual behavior furnishes a fairly large number of cases, and more bizarre types of sexual aberration occasionally occur. Ackerson's (1931) study affords the most elaborate data on these problems. In Table XLIII are given some selected figures from his report; these incidences represent only those cases for which notations were made in the case history. There was no constant inquiry into the history of sex activities for every child. The headings in the table include only those problems of more frequent occurrence. There are some evident sex differences, masturbation and homosexual activity being more frequent in the boys, while heterosexual activities and over-interest in sex are more frequent among girls. A race difference is evident

TABLE XLIII—INCIDENCE OF SEX PROBLEMS
(Ackelson)

| | White Boys | White Girls | Colored Boys | Colored Girls |
|--|---------------|----------------|-----------------|------------------|
| Number of cases | 2853 | 1739 | 245 | 163 |
| Known or suspected | | | | |
| Masturbation | 24 | 11 | 22 | 9 |
| Coitus | 3 | 15 | 9 | 29 |
| Mutual masturbation, same sex | 4 | 1 | 1 | 1 |
| Precocious or over-interest in opposite sex | 2 | 12 | 2 | 15 |
| Precocious or over-interest in sex matters | 4 | 6 | 3 | 5 |
| Aggressive homosexual activity with same or younger age | 3 | 0 6 | 4 | 0 |
| Passive homosexual activity with older age | 2 | 0 | 2 | 0 |
| Indecent exposure | 2 4 | 0 7 | 2 | 2 |
| Victim of sex attack (not relative) | 1 4 | 8 | 2 | 5 |

only in coitus or sex delinquency. This problem was three times as frequent among Negro boys, and twice as frequent among Negro girls, as among white boys and girls, respectively

Masturbation.—Masturbation is defined as the manipulation or self-stimulation of the genital organs for the purpose of sexual satisfaction. In dealing with this problem the genital manipulation of infants and small children must be differentiated from that of older children, adolescents, or adults. The infant discovers his body by exploratory manipulation. He pulls his ears or nose, plays with his fingers and toes, puts his fingers in his mouth, handles his genital organs, and in many other ways becomes aware of his body. Frequently such activities are pleasurable, and the child may continue them for at least short periods. Parents are usually not concerned over these manipulative activities except those directed toward the genitals; these are thought to be debasing, unclean, and even harmful. The emotional reaction of parents to such activity emphasizes them, with the result that the child continues the practice long after other manipulative acts have disappeared. This may be one starting point for the more serious masturbatory activity of older children. Unless one has a thoroughly Freudian point of view, this manipulation of the young child probably has no sexual significance. If dealt with in the same manner as any infantile manipulation is dealt with, it will disappear quite as easily and quickly.

Masturbation in older children is so intimately bound up with the whole question of sex, suppressed as it is by social taboo, that it is difficult to see the problem for just what it is. There can be no doubt that in some children even as young as seven or eight years masturbation is recognized as sexual activity and therefore comes under the ban of social disapproval. In others it is a pleasurable activity of a sexual kind, but the child is unaware of its nature. In adolescents it is probably always a consciously sexual act.

Data on the frequency of masturbation among children are practically non-existent; in fact, there is very little in the way of statistical studies on it at any age. Ellis (1913) has summarized a number of opinions, some of which were based on investigations as to the extent of the practice. The percentages vary from 23 reported for men in the professional classes in northern Italy, to 99 estimated by Oskar Berger. In Table XLIV are summarized several more recent statistical studies,

TABLE XLIV —REPORTED INCIDENCES OF MASTURBATION

| Author | Group | Number Reporting | Admitting | Per Cent |
|-----------------------|----------------------------|---------------------|-----------|-------------|
| Men | | | | |
| Exner (1915) | College men | 518 | 319 | 61.6 |
| Peck and Wells (1923) | College men | 188 | 139 | 73.9 |
| Achilles (1923) | High school boys | 349 | 197 | 56.4 |
| " | College men | 39 | 29 | 74.4 |
| " | Adult men | 70 | 60 | 85.7 |
| Peck and Wells (1925) | College men | 238 | 195 | 81.9 |
| Hamilton (1929) | Married men | 100 | 88 | 88.0 |
| Total men | | 1502 | 1027 | 68.3 |
| Women | | | | |
| Achilles (1923) | College women | 31 | 14 | 45.2 |
| Davis (1929) | Unmarried college women | 950 | 603 | 64.8 |
| " | Married women ^a | 951 | 381 | 40.1 |
| Hamilton (1929) | Married women | 100 | 40 | 40.0 |
| Total women | | 2012 | 1038 | 51.1 |

^a Reporting masturbation before marriage. In no case was the practice begun after marriage, although in at least 62 cases it was continued afterward.

based, with one exception, on questionnaire returns from adults. Taken at their evident value, these data indicate that about two-thirds of the men and slightly over one-half of the women admitted masturbating. It is probable that these percentages are too low because in each study there were some individuals who did not answer the question concerning masturbation at all. How adequately these percentages repre-

present conditions in general we have no way of knowing, for the present we must accept them as the best available estimate.

We are still confronted with the question of frequency of masturbation among children. Ackerson's data shown in Table XLIII report masturbation in about one-quarter of the boys and one-tenth of the girls. The author himself suggests that those figures are possibly not complete because the notation usually depended upon the examining psychiatrist, and it may have been possible that information was not consistently obtained for every case. We may find some answer to our question indirectly from reported ages of beginning masturbation in the cases summarized in Table XLIV. Davis (1929) summarized data on age of onset from the studies listed in this table, and we have condensed these in Table XLV. If we assume that the percentages for

TABLE XLV — AGE OF STARTING MASTURBATION

| Age | Davis' Summary | | | | Calculated for Total Groups of Table XLIV | | | |
|-------------------|----------------|----------|-------|----------|---|----------|-------|----------|
| | Men | | Women | | Men | | Women | |
| | No | Per Cent | No | Per Cent | No | Per Cent | No | Per Cent |
| 11 years and less | 102 | 20.9 | 435 | 49.1 | 160 | 13.9 | 490 | 25.6 |
| 12-14 years | 216 | 44.3 | 129 | 14.6 | 339 | 29.4 | 146 | 7.6 |
| 15-17 years | 148 | 30.3 | 55 | 6.2 | 232 | 20.2 | 62 | 3.2 |
| 18 years and more | 22 | 4.5 | 267 | 30.1 | 34 | 2.9 | 300 | 15.7 |
| Total | 488 | 100.0 | 886 | 100.0 | | | | |

the various ages shown in the left half of the table hold for the total group of persons who admit masturbation, then we can calculate that 160, or 13.9 per cent, of the 1149 men who reported on the question of masturbation began the practice by the time they were eleven years of age. As we do not know how many individuals stopped the habit after a short interval, the percentages for different age groups cannot be totaled to represent the frequency of the habit over a larger age range. The figures can be taken only as the number of adults who had the habit sometime during childhood. In this sense it will be seen that almost twice as many girls as boys start the practice under eleven years of age. Between twelve and fourteen years nearly a third of the boys started, whereas less than 10 per cent of the girls began the

practice. Very few girls started between the ages of fifteen and seventeen, but 20 per cent of the boys did. Onset of masturbation during age eighteen and over is in decided contrast, with only 3 per cent of boys and 15 per cent of girls starting at this advanced age. We may say that girls start the habit more frequently as children or in late adolescence, while boys begin more frequently in early adolescence.

Rohleder (1902) distinguished four types of masturbation. The first, and most frequent is manual auto-manipulation of the genital organs. Second is instrumental manipulation in which foreign objects are introduced into the vagina and occasionally into the male urethra. The other two types do not coincide with the definition given at the beginning of this section, but they must be considered as aspects of the problem. The third type is mutual masturbation in which two or more children stimulate each other's genitals. The fourth type may be called mental masturbation; excitement and even the orgasm is produced by means of sexual fancies or pornographic pictures or literature.

Causes.—We have already mentioned the body exploration in which all infants indulge. This normal handling may persist because of parental attitudes drawing the child's attention to the act, because the child does not have sufficient other things to do, or for other reasons. Lying in bed awake is an ideal setting for either the initiation or the continuance of the habit. Seventeen of 603 unmarried college women in Davis' (1929) study reported the onset in the third or fourth year. It seems reasonable that onset at such an early age may be related to the persistence of infantile manipulations.

Local irritation because of skin disease, uncleanness, or too tight clothing in the genital and perineal regions may cause the child to scratch and rub. Such activity results in pleasurable genital sensations and when the irritation is removed the masturbation becomes a desired end in itself. In Davis' (1929) group of unmarried women, 177 per cent gave such irritations as the reason for beginning the practice. Sensations causing erection, even in small boys, may direct the child's attention to the genital organs, which are then stimulated artificially.

Many other experiences which stimulate the sex organs may be the starting point of masturbatory activity. Unintentional handling by parents or nurses, sliding on ropes or banisters, playing in the bath, and so on, have all been given as the occasion for beginning the prac-

tice. In Table XLVI is given the frequency of different reasons as reported by Davis' subjects. As the questionnaires to the unmarried and to the married group were not the same, the headings probably do not exactly coincide.

TABLE XLVI—REASON FOR BEGINNING MASTURBATION
(Davis)

| | Unmarried Women | | Married Women Begun before 14 Years | |
|-------------------------------------|-----------------|----------|-------------------------------------|----------|
| | No | Per Cent | No | Per Cent |
| Accidental discovery | 322 | 53.4 | 128 | 52.0 |
| Learned from others | 165 | 27.4 | 102 | 41.5 |
| Deliberately undertaken as an adult | 49 | 8.1 | | |
| Did not answer or did not recall | 67 | 11.1 | 16 | 6.5 |
| Total | 603 | 100.0 | 246 | 100.0 |

Learning the habit from others is almost as frequent a reason as accidental self-discovery. In Davis' group the habit was most frequently learned from another girl—playmate, sister, or other relative—and, in some cases, from older women. Similar figures for boys are not available, but clinical experience leaves no doubt that older boys who have the habit are entirely willing to introduce younger children to it. Children sleeping together affords excellent opportunity for mutual exploration and thence, mutual as well as self-masturbation.

Kanner (1935) calls attention to a circumstance that is frequently neglected. In the pre-pubertal and early adolescent periods many children discover the pleasure and mechanics of masturbation themselves without any influence from local irritation or teaching. We may add here that probably a fruitful source of such discovery lies in the half truths and complete untruths that comprise the sex knowledge of altogether too many children.

Boenheim (1932) emphasizes domestication as causes of masturbation.

(1927) say that masturbation may be a sign of tension resulting from home conditions. In this way it may be symptomatic of personality disturbances in the same way that nail-biting, tantrums or night terrors are. Excessive masturbation, rather than the occasional practice, is more likely to be symptomatic of this sort of disturbance. Mental

masturbation, partaking as it does of the nature of daydreaming, may also be considered indicative of personality disturbances

Effects of Masturbation.—Of greater clinical importance than indulgence in masturbation is the effect of its supposed harmful sequelae. Almost every kind of mental or nervous disorder, from acute mania and feeble-mindedness down, has been predicted as a result of the practice. From the time of Tissot's (1760) monograph, the dire results of masturbation were one of the chief concerns of most writers on the subject until the last quarter of the nineteenth century when, according to Meagher (1936), a more scientific approach to the problem was made. Even as late as 1902 Rohleder claimed that masturbation had destructive effects on various organs of the body. Fortunately, nearly all physicians and psychologists today are emancipated from these absurd ideas, but they are still believed by too great a section of the lay public.

The best modern opinion has been well set forth by Malamud and Palmer (1932), whose conclusions we may briefly summarize. The frequency with which masturbation occurs bears no relation to the incidence of mental disorders. There is no evidence that the practice, *per se*, even when carried into adult life, is a cause of mental disorders, although it may indirectly be of importance because of the patient's attitude toward his act and of what he believes are possible sequelae. In this way masturbation may be a precipitating cause of disturbances of an inferiority and withdrawing type.

It is the attitude of parents, teachers, and other adults that the habit is bad, unclean, shameful, and the like, as well as the all too frequent beliefs in the harmfulness of sequelae, that affects the child and causes him to use any means to circumvent discovery. The patient himself may copy the attitude of others and in so doing cause himself much worry and create feelings of inferiority which are much more harmful than the act itself.

The foregoing must not be interpreted to mean that no attention need be paid to masturbation. Just as we are concerned with nail-biting, thumb-sucking, temper tantrums, and all the other forms of undesirable behavior discussed in this book, so we are concerned with this habit. It may be a symptom of a personality disturbance, for as Dennet (1929) says, "extreme masturbation is a symptom of neurosis rather than the cause of it." Masturbatory activities may be so frequent and uncontrolled that they interfere with the attention and

concentration necessary for school work. They may be serious because of the child's attempts to influence other children. Also there may be pathological conditions or infections of the genital organs, particularly in girls, as a result of the methods used. In short, there are many reasons why clinical attention should be paid to the masturbator—although possible mental disease as a sequel is not one of them.

Treatment.—The first and, perhaps, most necessary step in the treatment of a child who masturbates is to overcome and change erroneous notions concerning sinfulness or harmfulness of the act that may be held by the parents or by the child. Until this is done, any direct attack is doomed to at least partial failure. Parents must be assured of the great improbability of harmful sequelae, and be shown that their concern is potentially more harmful. Especially must they be warned of the undesirability of wrong attitudes in dealing with masturbatory activity in small children. Similarly, the child's attitude toward his masturbation should be learned, and when it is unhealthy it should be changed. An unbiased and unemotional consideration of the whole problem will greatly aid the child in seeing his problem in its true light.

Careful medical examination of the genitalia is always indicated. Pruritus, eczema, pediculosis pubis, or other skin irritations must be remedied. Phimosis, or tight prepuce, should probably be surgically corrected. Cleanliness of the genitalia is necessary. Children should be taught to empty the bladder before increasing tension causes sexual irritation. Young children should not lie abed for long periods while awake, unless they have books or interesting toys to occupy their time and attention. Avoid petting and fondling of such a nature, or to such an extent, that it may afford sexual stimulation to the child.

It must always be remembered that in many cases masturbation is symptomatic of inferiority, loneliness, unhappiness, emotional tension, and similar personality disturbances. In such cases there are always other symptoms of the underlying condition. Attention must be directed first to the general condition and only later to the specific act. Restraint, mechanical or otherwise, threats, severe punishment, emotional appeals, are all of little avail in attempts to cure, although they may operate to make the child cling even more strongly to his habit and to create emotional tensions that may in turn aggravate the habit.

Because of the great frequency with which masturbation occurs, and because probably all persons who have not developed the actual habit have been seriously tempted, Thom's advice—that parents remember with masturbation—may, if tact-
rtance.

Heterosexual Problems—The child is normally curious concerning everything he sees about him. To this curiosity sex is not immune. As a result of our usual cultural attitude, frank sex information is rarely provided, and so the child leans heavily on part truths and misinformation gleaned from playmates, chance observation, and frequently direct experiment with children of the same or opposite sex. In his attempts to get information on this tabooed subject, the child may engage in activities which are frowned upon by his elders. Such activities are often looked upon as problems and are called to the attention of physicians, psychiatrists, and psychologists. These problems range from obscene or vulgar talk or daydreams to attempted or completed intercourse.

Sex topics may be taboo at home or with one's elders, but they certainly are not among children. Even among young children sex comprises a fair share of the conversation—often, it is true, without any real idea of the subject. After ten or twelve years of age this subject may frequently be a major one—stories, real or imagined experiences, tall but thrilling tales of things seen or heard, questions and parental answers to them are usually the only methods available for the child to get knowledge of this to-be-avoided field. With a cultured home background the talk may be restrained, but among other children vulgarity and downright obscenity intrude themselves. The reading of pornographic literature and the writing of vulgar notes are problems that occasionally appear.

More direct methods of investigating the field of sex are often employed. Peeping, which is considered a perversion in the adult, may be perfectly normal for the older child who desires information. Peeping into unshaded windows or guests' rooms sometimes presents problems. In crowded homes, or because of unwholesome parental attitudes (e.g., over-solicitude), children sometimes are forced to sleep in the same room, or even with, the parents. Under such circumstances they may discover the parents engaged in the sex act and without making known their discovery may subsequently lie awake in order to further

their observations. As early as seven or eight years of age, children sometimes seek information concerning the opposite sex by direct exploration, and occasionally they may attempt to indulge in coitus. Exhibitionism occurs, often as an inducement or suggestion to other children to exhibit themselves.

Petting—which is the current slang for a form of behavior that has been variously named by each succeeding generation—includes a large variety of acts of obvious sexual import which usually stop short of actual intercourse. This is a problem of adolescence, the seriousness of which depends largely upon one's point of view. The greatest harm comes from the excessive emotional stimulation which frequently is uncontrolled. A sane sex education which gives the child some sense of values is of much greater usefulness than endless preachments or attempts at strict deprivation.

Sexual intercourse, particularly in adolescents, is an important delinquent problem. Intercourse may be entered into voluntarily only once or occasionally, or it may be so extensive as to be considered prostitution. Assault of young girls by older boys or men, and incestuous relations, can seldom be considered behavior problems in the girl.

Homosexual Problems—Homosexuality may be considered psychologically abnormal when it is the preferred type of sexual adjustment, it may be psychologically normal when it is the only sort of adjustment possible. In the former case there may be constitutional reasons for the behavior, or it may be entirely a product of the patient's experiential history. The latter form is found frequently in segregated institutions where boys and girls are thrown into rather close intimacy with their own sex. In young children homosexual practices are frequently merely one way of securing sex experience and have no greater significance. In older children either of the above-mentioned forms may occur. The child may be the aggressor or he may play a passive rôle. In the latter case he may do so voluntarily or he may be the victim of attack. In institutions for delinquent, defective and perhaps dependent boys, the practices are probably a great deal more frequent than administrators care to admit. Ackerson's data in Table XLIII show approximately five or six per cent of boys exhibiting problems of homosexuality, but practically no girls. There is no reason to believe, however, that homosexual acts are not indulged in

by girls. Davis (1929) found 51.2 per cent of 1181 unmarried women who were college graduates who admitted having homosexual experience. Of these, 43.5 per cent began such experience before going to college, and 35.5 per cent during college. These data indicate that the problem is not unknown among adolescent girls.

A less overt form of homosexual behavior is found in the intense "crushes" or love affairs not involving physical intimacy between members of the same sex. These are a great deal more frequent among girls than boys. They may be mutual between girls of a similar age, or they may be one-sided loves of a younger girl for a teacher or older woman. If not mismanaged by provoking the child's resentment through interference or ridicule, and if overt practices do not develop, these "crushes" usually disappear spontaneously.

"NERVOUS" HABITS

There are a number of motor habits exhibited by children which occasion concern on the part of parents. Certain of these habits are limited to quick, involuntary movements of circumscribed muscle groups, while others, of a more widespread action, are usually called by the generic name, "body manipulations."

Olson (1929) has shown that habits of this sort occur in practically all children. In his study of 467 children in the first to the sixth grades, only one boy did not exhibit some form of this habit during the observation period. From a survey of a number of textbooks Olson devised the following classification of these nervous habits

1. Oral: sucking thumb or fingers, biting nails, protruding tongue
2. Nasal: picking, scratching or wrinkling nose
3. Manual: picking fingers, writhing hands, clenching fists
4. Hirsute: pulling and twisting hair, scratching head
5. Aural: pulling and picking ear
6. Irritational: scratching body
7. Ocular: rubbing eyes, blinking eyelids, winking
8. Genital: manipulating genitalia, rubbing thigh
9. Facial: grimacing, twitching muscles

In 459 school children 613 habits were observed. The percentage distribution was as follows.

| | Groups | Per Cent |
|------------|--------|----------|
| Oral . | .. | 54 |
| Nasal . | . | 28 |
| Hirsutal . | .. . | 23 |
| Ocular . | . | 15 |
| Aural . | .. . | 10 |
| Genital | . | 4 |

An analysis of the same data indicates that the frequency of these nervous habits does not decrease with age, and also that girls exhibit more of the habits than do boys. This was particularly true at the younger ages. In his study of possible origins of these nervous habits in otherwise normal children, Olson is led to conclude that the causation is probably multiple, with family predisposition, imitation, fatigue, and nutritional status all being significant factors.

In Olson's investigation of nervous habits no particular distinction was made between body manipulation and true tics, but in clinical practice these two should not be confused. Kanner has outlined differential characteristics which may be briefly summarized. Tics are involuntary movements by circumscribed muscle groups, usually of short duration. Each attack is practically identical with every other one. The onset of each attack is sudden and once started cannot be interrupted. In contrast, the habitual manipulations of the body are not involuntary automatisms, although they may be indulged in without full awareness. Their course may be of long duration, the onset is slow, and they may be stopped at any stage. These performances are purposive and pleasurable in themselves, whereas tics have lost any such characteristic. Because of these differences we shall discuss the two conditions separately.

Body Manipulations—As indicated by the list of nervous habits given earlier, body manipulations may take a variety of forms. Perhaps most common among these—at least they attract more attention—are thumb-sucking, nail-biting, and masturbation. The last of these we have discussed in the preceding section.

Thumb-sucking.—This habit is common among infants, and probably at this early age occasional sucking of the thumb should not be considered a problem. In a small number of cases the habit may be congenital, according to Levy (1928). More often its origin is closely associated with the infant's original feeding methods, i.e., sucking at the breast or bottle. Each nursing period begins with the child tense and restless because of hunger. As the nursing continues he becomes

relaxed, and after a fully satisfying meal he is sufficiently relaxed to fall asleep. If for some reason—physical condition, inadequate diet, hurry, or emotional disturbances—the child is not fully satisfied he may suck his thumb or fingers, which apparently continues something of the pleasures of nursing, until he has fallen asleep. There can be nothing seriously undesirable about this form of behavior, provided it does not become chronic. But if the child's feeding is not entirely satisfactory there is the danger that each period will so frequently be followed by thumb-sucking that the undesirable act will become thoroughly habitual. Morgan (1934) suggests that the most frequent reason for the habit becoming chronic is the worry exhibited by parents over the habit. They attempt to correct it by taking the child's thumb from his mouth or by using various mechanical contrivances designed for this purpose, without making any attempt to correct the underlying nutritional cause.

The thumb- or finger-sucking habit is undesirable for a number of reasons. In the beginning, as we have just said, it is almost invariably an indication of some nutritional problem. If it becomes chronic it may bring about derisive comments from other children when the sufferer is old enough to start building up social contacts. This habit may also affect the development of the jaw, as was shown by Lewis (1929, 1930), who was able to observe 170 children over a five-year period. Thirty of these children sucked their thumbs and in twenty-four of these cases there was malocclusion of the deciduous teeth. Twenty-eight of these thirty children had contracted the habit in their first year, and it had been broken at ages ranging from nine months to six years. He found that if the habit were corrected before six years of age the malocclusion corrected itself, but if not corrected until after this age it remained static. In a fairly large number of cases Linder (1879) has shown that thumb-sucking is associated with other manipulations such as sucking the lip, pulling the ear, or rubbing some part of the body with the unoccupied hand.

Prevention of thumb-sucking is to be desired. As the condition is so often associated with nutritional status, the first efforts should be directed to making the diet adequate in both quality and quantity. With a full, but not too full, stomach the infant is much less likely to resort to thumb-sucking for satisfaction. If the habit persists, Thom (1927) believes that simple restraint may be desirable. This may consist of gently removing the thumb from the mouth, and perhaps giving

the child something to hold. The use of mechanical restraint or ill-tasting medication on the thumb may be useful if the child's cooperation can be secured; but if such measures are used as a punishment, or if the child does not realize their purpose, the results will probably not be satisfactory. Restraint of one arm or protection for the thumb may result in sucking of the fingers or the other thumb. Spitzka (1890) has the following footnote regarding the use of bad-tasting medicine. "In attempting, by means of a liberal application of asa-fetida, to check the thumb-sucking proclivities of an infant the experimenter's attention was ludicrously directed to the possibility of inculcating any drug habit, provided it be begun early enough. Up to and beyond eight months the child—an intelligent one, and since become a good discriminator—was not broken of the habit by this, *a priori* one would suppose, radical measure." Until two years of age or so it is probably wiser for parents to make sure of the child's diet and not to be concerned about spasmodic thumb-sucking.

If the habit, especially in older children, persists or recurs, it is important for the child's own development that it be corrected. When this habit, as is more usual with older children, is only a part of an undesirable behavior pattern, then the improvement of the total picture will result in elimination of the sucking. For example, one five-year-old spent most of his time following his mother about and sucking his fingers, in spite of a plentitude of outdoor toys and play space. When a desirable companion was introduced, the toys were made use of and the sucking habits disappeared.

When the habit is an isolated phenomenon, or even on occasion when it is a symptom, correction may be easily brought about, especially if the child's cooperation can be secured. Heering (1932) offers the following suggestions which may be severely criticized by some, but which may prove of value in certain cases: "With older children an appeal to pride is most effective. The use of a cuff or wire 'sleeve'; taking the child away from his play to suck his thumb in front of a mirror for ten minutes; psychoanalysis; taking toys to hold when going to bed; holding bed clothes; and positive suggestions are the best remedies." The use of a star chart for recording improvement, and special privileges for success are sometimes of value.

The psychoanalytic belief that thumb-sucking and other acts are substitute forms of masturbatory activity is actively disputed by most workers. Woodcock (1934) finds that sucking habits are not fre-

quently associated with masturbation and that they have no sex significance. Kanner (1935) suggests that instead of thinking of sucking habits and the like as being sexual in nature, we might more reasonably think of masturbation, at least in young children, as innocent body manipulation.

Nail-biting.—According to Thom (1927), nail-biters are more apt to be hyperactive, fidgety individuals than are thumb-suckers. Kanner (1935) says the habit is more frequently an "expression of tenseness." Very infrequently is it a primary complaint in clinic reference. The habit is widespread among children and adults, although the onset is usually after three years of age. Wechsler (1931) observed over 3000 school children in all grades and found incidences as shown in Table XLVII

TABLE XLVII —INCIDENCE OF NAIL-BITING IN 3000 SCHOOL CHILDREN

| Age | Both sexes | | Males | | Females | |
|---------|-------------|----------------------|-------------|----------------------|-------------|----------------------|
| | No of Cases | Per Cent Nail Biters | No of Cases | Per Cent Nail Biters | No of Cases | Per Cent Nail Biters |
| Under 3 | 31 | 0 0 | | | | |
| 3 | 31 | 3 3 | | | | |
| 4 | 40 | 20 0 | | | | |
| 5 | | | 70 | 27 1 | 34 | 20 6 |
| 6 | | | 177 | 29 4 | 58 | 31 0 |
| 7 | | | 153 | 35 9 | 184 | 30 9 |
| 8 | | | 112 | 35 7 | 158 | 39 9 |
| 9 | | | 122 | 38 5 | 91 | 25 6 |
| 10 | | | 127 | 33 9 | 98 | 33 7 |
| 11 | | | 104 | 33 7 | 76 | 32 9 |
| 12 | | | 103 | 35 0 | 87 | 43 7 |
| 13 | | | 110 | 43 6 | 81 | 44 4 |
| 14 | | | 150 | 42 0 | 163 | 34 3 |
| 15 | | | 114 | 32 4 | 196 | 31 1 |
| 16 | | | 68 | 27 9 | 184 | 23 9 |
| 17 | | | 21 | 19 0 | 82 | 15 9 |

NOTE: All ages include, e g., from 3-0 to 3-11

Wechsler draws a parallel between the increase in incidence with age and the Freudian division of sexual development, to the end of "proving" that nail-biting is "nothing but a particular form of unconscious masturbation activity." This conclusion from the data is an excellent example of the weird logical flights of which the cult of psychoanalysis is capable.

Viets (1931-32) compared a group of nail-biting clinic cases with a group of non-nail-biters. She could find no difference in intelligence

or physical condition; the nail-biting did not seem to be associated with any pattern or problem behavior; it was not associated with masturbation; and the nail-biters did not seem to be essentially "nervous" children. The chief difference between the two groups was in the greater frequency among the nail-biters of situations indicative of tension in the home. Kanner (1935) found that nail-biting was associated in his cases with other indications of tension in the child.

Corrective procedures utilizing restraint or bitter-tasting applications are even more contra-indicated for nail-biting than for thumb-sucking. Therapeutic measures must be aimed at relieving the underlying tension, and this involves treatment of the child's whole personality.

Other manipulations occur with a great deal less frequency than the foregoing. Sucking the tongue or lips, biting the lips, picking the nose, pulling the ear or hair are all found. Usually they are part of a manipulatory pattern and are indicative of widespread behavior disorder. Sometimes any one of them may be a temporary reaction to a local irritation. Scolding, nagging, or otherwise attracting attention to them hinders rather than helps in their elimination.

Tics.—The circumscribed motor spasms known as tics may be manifested in a wide variety of ways. Most frequently they involve grimaces and other facial movement—winking eyes, stretching the mouth, wrinkling the nose, etc.—although neck movement and other muscular movements may be involved. From his survey of the literature Olson (1929) presented a list of fifty-five acts called tics by one or more authors. Many of these are of a gross, involuntary character that are best considered body manipulations. Among the rest are included grimacing, puckering the forehead, blinking, winking, trembling nostrils, twitching mouth, twisting the neck, nodding or jerking the head, jerking hands or arms, shrugging shoulders, shaking foot or leg, blowing through the nostrils, spitting, etc.

There appears to be general agreement that tics are a symptom of "nervousness" or neuropathic tendencies. Walsh and Foote (1924) say, "Almost any normal movement may, in nervous children, come to be repeated so frequently as to become a tic." A temporary local irritation, e g., of the eye, ear, or mouth, tight clothing, irritating infections, etc., may start a perfectly normal response, which is continued until it loses its purposive character and results in the involuntary type of behavior called a tic.

Boncour (1910) reports that 417 of 1759 children between two and thirteen years of age exhibited tics. The frequency by age is shown in Table XLVIII. Most writers believe that the age of onset is after six

TABLE XLVIII—INCIDENCE OF TICS

| Age | Both Sexes | Males | Females |
|-------|---------------|-------|---------|
| 2-4 | 15 | | |
| 4-5 | 5 | | |
| 5-6 | 3 | | |
| 6-7 | | 27 | 27 |
| 7-8 | | 23 | 19 |
| 8-9 | | 39 | 25 |
| 9-10 | | 19 | 27 |
| 10-11 | | 14 | 28 |
| 11-12 | | 50 | 29 |
| 12-13 | | 11 | 7 |

years. Kanner (1935) reports that the youngest tiqueurs in his group were six years of age, which is approximately the earliest age mentioned by Thompson (1921) and by Meige and Feindel (1902)

Tics should be distinguished from body manipulation, the differentials between these have been mentioned previously. Certain neurological conditions may sometimes be confusing. Among these may be mentioned general hypermotility, chorea, and athetosis.

Therapy must first make sure that all possible physical conditions are improved. Psychotherapy must be directed toward the child and not toward the tics. False notions regarding tics and aggravating environmental conditions must be remedied. The child's own confidence and cooperation are necessary.

TEMPER

As with all other emotional behavior, anger may be a constructive, necessary aspect of human behavior. Child training must aim not to eliminate emotional reactions, but to control and socialize them. Watson, in his now classic exploration of emotional reactions in infants, found that restraint of movement by holding the arms, chin, nose, or other part of the body resulted in defense reactions apparently directed toward freedom, which might be called rage. While subsequent experimenters, notably Pratt, Nelson, and Sun (1930), have found that Watson's description of behavior in this situation does not hold true for all infants, yet there can be little doubt that even very young babies

may exhibit behavior similar to that called anger when it occurs in older children or adults. In a general way hindering, interference with activity, and thwarting are the causes of anger, not only in infancy, but throughout life.

Thom (1927) points out that anger reactions may take two forms: first, the active motor and vocal reaction called temper tantrums and, second, sullenness and moodiness. The first of these is disagreeable and undesirable from the point of view of the social group, but the second is probably more serious in terms of the child's own personality development. Temper tantrums, by their very nature, are excellent attractors of attention, and the evidence is pretty clear that attention is usually what the child wants. On the other hand, sullen moodiness represents an inhibition and repression of anger that finds no outlet. It accumulates and distorts the child's outlook on life so that he is bitter and resentful, and cannot and does not freely adjust to social demands.

Goodenough (1931), in a study of anger in a group of 45 children ranging from seven months to about eight years in age, found that the behavior picture changed with age. Three-quarters of all outbursts recorded in children under three years of age were primarily displays of undirected activity such as kicking, stamping, jumping, holding the breath, stiffening or making the body limp, crying, screaming, and so on. Some 66 per cent of all outbursts for both sexes and for all ages involved behavior of this sort. Resistant behavior, such as turning the head or body, refusing to swallow, refusing to open the mouth, or running away, occurred in 44 per cent of the outbursts, with no significant variation between the two sexes or in different age groups. The third type of behavior exhibited—~~retaliative~~—such as calling names, grabbing, biting, throwing objects, threatening, etc., occurred in only about 16 per cent of the outbursts, but there was a definite tendency for these to increase with increasing age, e.g., only 63 per cent of the outbursts of one-year-olds were of this type, in contrast with 28 per cent of those in children four years or older. Of the 1878 outbursts of anger studied, fewer than one-third lasted as long as five minutes.

Anger displays probably occur to some degree in nearly all children. In Goodenough's (1931) group of 45 children of college graduates, with none selected as particular problems, anger outbursts were exhibited by all. The frequency varied from one four-year-old girl who

had only four tantrums in 131 days, or 0.13 per day, to a baby boy one and a half years of age who had 109 outbursts in 30 days, or 3.63 per day. Temper displays are a rather frequent problem presented by children referred to clinics. In Table XXXV above we find that 31 per cent of the cases at the Institute of Juvenile Research, 29 per cent of the children from pre-school clinics, and 54 per cent of the problem children referred to the Berkeley School Clinic exhibited this form of behavior. Even among the 109 non-problem children studied in Berkeley, 23 per cent were reported to have had temper tantrums. Among 3600 cases studied in the Institute for Child Guidance, 8 per cent were referred because of tantrums. Kanner (1935) reports that among all cases referred to his clinic, 16 per cent exhibited dramatic outbursts of anger.

Tantrums may occur at any age, but Ackerson (1931) and Goodenough (1931) both found a consistent decrease with increasing age. In Goodenough's small group of young children the greatest frequency of outbursts per hour was between one and two years of age. Ackerson's large clinic group showed the greatest percentage of cases between three and four years. On the other hand, Kanner (1935) found that 11 per cent of his cases showing tantrums were four years, 13 per cent were six years, and 16 per cent were nine years of age. Moreover, his data show no consistent trend.

When the frequency of tantrums is compared with M.A., both Ackerson and Kanner find a lower frequency with higher mental age. Ackerson's data show the decrease starting at a mental age of four or five, in Kanner's group the frequency is 10 per cent or more for M.A.'s three to nine, the frequency being less than 4 per cent for higher M.A.'s. Ackerson finds a slight increase with IQ, especially among younger boys. Kanner's results are somewhat opposed to this, as about 40 per cent of this group were of average or greater than average ability and 60 per cent were border-line or feeble-minded.

Ackerson (1931) reports that 34 per cent of 2853 boys and 27 per cent of 1739 girls had notations of some type of anger in their histories. Kanner (1935) found that 63 per cent of his cases who showed temper tantrums were boys and only 37 per cent were girls. Goodenough (1931) found the frequency of outbursts per hour to be .09 for boys and .08 for girls. These data suggest that temper tantrums are probably more frequent among boys than among girls.

per outbursts is always a real

or imaginary interference with, or hindrance to, present activities, or planned future activity. This does not, however, explain why some children exhibit frequent tantrums while others seldom do, or why the same child may be quick to anger on one occasion but not on another. As with most other forms of behavior difficulties, the major etiologic factor is to be found in the training and attitudes of the home. In the very young child, or occasionally in all children, anger outbursts need not be taken too seriously. They are problems only when, from their frequency in an older child, it is evident that he has not learned to control or inhibit his infantile reactions so that his behavior conforms reasonably to the community norms.

The influence of the home is seen mainly in, first, inadequate handling of temper outbursts, and, secondly, the presentation of models for imitation. Even the infant soon learns that he can gain attention by crying angrily, if the mother meets such episodes by satisfying his every whim. Bribing, giving in to the child's demands, diverting his attention, substituting a new activity, removing the cause of the trouble, ignoring the behavior, and isolation were found by Goodenough to be useful in terminating outbursts. However, children whose parents met the issue by giving them their own way had more frequent outbursts. Children whose parents handle tantrums unwisely have outbursts of anger to secure their own way, to secure attention when they feel they are neglected, or because of jealousy. Parents who satisfy the child's desires because of his tantrums are laying the foundation for frequent, habitual spells of anger which may remain part of his behavior equipment even in adult life.

The excited, loud-speaking, angry father or mother; the nervous, fussy, inconstant mother; the drunken, brutal father, all present models for the child's anger, or situations ideal for its arousal. The parent's unthinking interruption of a child's play or plans is also frequently a reason for temper display. Often the brief resentment at being interrupted is justified because the parent has failed to consider the child's rights. But if such interference is too constant, the child may learn to respond to any and every direction with temper and refusal. There can be little doubt that the most important reason for the development of temper tantrums or any other form of anger behavior as a consistent part of the individual's behavior picture, lies in the influences of the home and parents.

Physical conditions are frequently causes of increased irritability,

and consequently any physical abnormality should be corrected. Goodenough (1931) found that temper outbursts were much more frequent when the child had a cold or was constipated or fatigued, or when it was almost time to eat. Kanner (1935) found two children who exhibited tantrums only during a period when they were suffering with scabies.

Treatment—As poor physical condition does aggravate, and on occasion may be the chief cause of, temper, it follows that any therapeutic measures must include adequate medical attention. With the child in good health, the next requirement is a stable, quiet, unemotional home environment. Thirdly, parents must learn to recognize outbursts of anger for what they are and deal with them wisely.

Concern over the outcome of a tantrum, even though it includes breath-holding, head-banging, or other spectacular acts, should never be shown. As soon as the child recognizes that the parents are worried, he has discovered that it is only a matter of time before he will gain his end. Exhibition of alarm and concern over the child is probably the most frequent reason for establishing and maintaining the tantrum behavior. Unless the child has a serious organic disability, particularly of the heart, the chances of harm resulting from a tantrum are nil. If there is danger of the child hurting himself with, or destroying, objects in a room, he should be put in a safer place. Coaxing, reasoning, and cajoling mean nothing to the child who is in a rage; yelling and beating serve no useful purpose. The wisest way of dealing with the tantrum is to ignore it at the time and forever afterward. Let the attack spend itself; if the parents cannot "stand it," they are under no compulsion to remain witnesses. Regardless of the parents' fears, or the neighbor's objection, or well-meaning advice not to cross the child, parents should never permit a child to get what he wants by means of a tantrum. Every time the child does so he strengthens by just so much this very undesirable form of behavior, and, conversely, delays by just so much his learning emotional control.

For a child referred to a clinic as a problem because of temper, therapeutic measures must attack his physical condition, undesirable home conditions, and his own habit patterns. Kanner (1935) wisely warns against "rest cures," sedatives and diagnosing the condition as caused by nervousness, because such measures do positive harm by establishing the conviction that the child is suffering from a "disease," which the parents then expect the doctor to cure. Temper tantrums are

frequently, if not usually, accompanied by other signs of emotional immaturity—fear, enuresis, stuttering, nightmares, tics, and other symptomatic behavior.

PLAY AND COMPANIONSHIP

Play has been defined as doing the things one wants to do; and work, as doing the things one has to do. The adult looks upon most of the child's activity as play, although the child may think otherwise. There can be little doubt that play activities occupy most of the child's time that is not spent in school, in home duties, or in sleep. It is also evident that play for children above two or three years of age is largely a social affair which introduces problems of companionship. In the psychological clinic are heard the complaints, "He does not seem to know how to play," "All she does is play," "She will not take care of her toys," "He cannot get along with other children," "He has no companions," "He runs around with a gang of bad boys," and so on, in endless variety. All such complaints are based upon behavior that indicates that the child has not formed play or companionship interests in accord with the usual development.

Play activities and their changes with age have occupied a large number of investigators. We can make no pretense at summarizing even the most important of them, but must be content with a brief résumé of the principal findings.¹ Below the age of two years the child's play activity is mainly non-social. He plays with his body, with objects; he makes noise, he is active in locomotive exploration, he is discovering the world of objects. Of course, children of this age do make reactions to social stimuli. Buhler (1930) and her students investigated the development of social behavior during the first year of life, and found that from two months on the infant makes a smiling reaction to the human voice. But in play activity the young child is content without companions.

By three years, play with others is becoming significant. Van Alstyne (1932) found in a group of 112 children two to five years of age, that play with material occupied 98 per cent of the time they were observed. Of the two-year-olds, 90 per cent played without active cooperation with others, and among six-year-olds nearly 70 per cent played in this manner. Over one-half of all the children tended to play alone.

¹ Excellent résumés of the experimental findings have been prepared by Buhler (1933) and by Stoddard and Wellman (1934, chaps. xi and xii).

when playing with materials. This same investigator found the average time spent in one activity to increase with age: two years, 6.9 minutes; three years, 8.9 minutes; four years, 11.4 minutes; and five years, 12.6 minutes. Mrs. Bott (1928) found a similar increase with age in the time spent playing with a single toy. The time thus spent ranged from one to 7.5 minutes for two-year-olds, one to 12 minutes for three-year-olds, 1.7 to fourteen minutes for four-year-olds, the age group averages being 2.5, 4.7, and 5.6 minutes, respectively. Frequently parents do not recognize that a short span is normal for young children and they complain that the child does not stick to anything.

With increasing age there are gradual changes in the play activity of children. Lehman and Witty (1927) studied several thousands of school children by means of their "Play Quiz." The quiz was a list of 200 play activities, on which the children were to mark those in which they had engaged during the preceding week. It was found that, with increasing age, there was a decrease in number of activities engaged in. Boys of eight years engaged in an average of 40 activities, and girls in 34. By age sixteen both of these averages had dropped to 20, and there was a further slight decrease up to age twenty-two. The change from year to year in type of play interests was gradual, and no age period showed any prevalent type. Three-quarters of the activities reached the peak of their popularity, i.e., the highest percentage of children engaged in them, before eleven years. No age between eight and nineteen could be characterized as primarily social or primarily individualistic. This is in contrast with the findings on pre-school children, when individualistic play is more characteristic, especially at younger ages.

Foster (1930) asked several hundreds of children in the first through sixth grades to write the name of ten outdoor and ten indoor games which they had played more than once during the preceding year. Outdoor games were preferred over indoor games. Games of catch, pursuit, and hide and seek were most popular, both outdoors and indoors, among boys and girls. Table and simple dramatic games were also popular in the indoor class.

From this brief survey it is evident that childhood is preeminently the time for play, and that the younger the child the more different the ways in which he plays. Play involving other children increases in popularity up to the school age, after which there appears to be little change. During later childhood and adolescence problems of

companionship divorced from play arise. The close association between the two warrants treating them at the same time.

Irregular *play interests* are frequently a part of the clinical picture. Interest and participation in play activities found in younger children are a common characteristic of mentally retarded children. According to the findings of Lehman and Witty (1928), children of lower intelligence participate in a greater number of play activities, social games and those requiring physical activity being predominant. Studies by Terman (1925) and by Witty and Lehman (1927) agree that children of superior intelligence prefer play requiring more thinking and less physical activity, and which is only mildly social. Therefore, as we have elsewhere suggested, play interests may be of diagnostic significance in problems connected with abilities.

Unusual play interests may also result from lack of opportunities, from special environmental influences, or from personality disturbances. The play activity that is accepted as usual for children of a given age must be learned through experience with materials, and can develop only if space and time are available to gain such experience. In all of these the child from a poor home is at a disadvantage. With extreme crowding in the home, with toys limited to a rag or tin can, and with lack of adequate outdoor play space, such children can hardly be expected to exhibit ordinary play interests, abilities or activities. Similarly, lack of companions at the age when children's play is becoming more social interferes seriously with normal development. In some cases the preoccupation of one parent may color the play or play substitute of the child, as is so excellently illustrated in Case Number 45.

The development of social play depends in large measure upon the child's own attitude. If he is withdrawn and introverted, he avoids contact with other children. The lonely child who has lacked companions may have a whole world of enchanting playmates who are preferred to real ones. Emotional instability, especially fear and anger, interferes with forming companionships. The child who is abnormally afraid is the butt of other children's teasing and bullying. He may react with anger, or by running away. In neither case is his behavior likely to win him friends. The bully or show-off, who is frequently merely trying to conceal his real feeling of inferiority, behaves in a manner better calculated to lose friends than to gain them.

Frequently it is complained that a child does not know how to

play, or that he shows no interest in his playthings. Behavior giving rise to such a complaint may be due to diametrically opposed conditions. The child who lacks play materials cannot be expected to learn to play. On the other hand, the child with a superfluity of playthings is too beset with stimuli. No one thing claims attention long enough to become interesting. Usually an abundance of toys means psychologically poor toys. Blocks, balls, a doll, a few tools are worth far more than a warehouse full of mechanical contrivances.

Attempts to correct play or companionship problems must involve the full cooperation of the home and of the child. Opportunities for play must be afforded. Suitable materials should be available; restrictions imposed by parents because of their fears or other attitudes should be removed; a few constructive toys rather than abundance should be the ideal. Parental interest but not indulgence, assistance but not direction, are needed by the child. Weill (1927) says that after two years every child should have companions of his own age. If he is forced, because of unavoidable circumstance, into adult companionship, the adult should be guided by these principles. (1) Do not interfere; keep in the background ready with help and interest; and (2) follow the child, rather than lead him, in play activity.

LYING

Lying, according to the dictionary, is the telling of falsehoods with the intent to deceive. This limitation—intention—is not always included in the parent's or teacher's complaint that the child lies. The psychoclinician is faced with the complaint of "lying," and he must determine if the falsehood is really lying, and if so, why the child lies; if it is not lying he must make this fact clear.

Lying as a complaint occurs with rather high frequency. In Table XXXV we find that 6 per cent of the children seen in the Institute for Child Guidance had been referred for lying. At the Illinois Bureau of Juvenile Research lying appeared in the history of 24 per cent of the cases. Paynter and Blanchard (1929) found lying in 29 per cent of their Los Angeles cases and in 37 per cent of their Philadelphia cases. In Martens and Russ' (1932) study, 56 per cent of the problem children were credited with lying, and only 6 per cent of the non-problem children. These figures leave no doubt that children's lies are important problems in clinics.

In Tilson's (1929) pre-school clinic cases there were only 0.4 per

cent reported for lying. This extremely small figure is in accord with the tendency evident in Ackerson's (1931) analysis of some 5000 cases, in which the occurrence of lying was found to increase from less than 5 per cent at four or five years of age for both boys and girls, to a maximum of something over 30 per cent at nine years for boys, after which it decreased to 20 per cent at seventeen years; the incidence in girls continued to increase to nearly 40 per cent by seventeen years. It is also of interest that among children five to twelve years of age there was a marked increase in incidence with increase in IQ, while among children thirteen to seventeen years there was no very evident increase with increased IQ.

There have been a number of investigations on lying or on children who lie. Slaght (1928) compared two groups of children selected on various bases as being truthful and untruthful. A more elaborate investigation was carried out by Hartshorne and May (1928). Conclusions from these studies may be briefly summarized. No one is inherently honest or dishonest, although those children who cheat will lie about it. This is perhaps to be expected because they hope to conceal the cheating by lying. Slaght concludes that untruthful children tend to overstatement, are more suggestible, are quicker in response, but more careless and less deliberative, and they tend to more imaginary activity. Truthful children have better moral comprehension, a wider range of information, and come from a better home environment. This last is corroborated by Hartshorne and May as well as by studies by Buhler and Haas (1924) and Tudor-Hart (1926). These last studies found that when asked the question whether lying was necessary, only one per cent of children from poor environments and about 50 per cent of those from good environments answered negatively, in fact, most of the former group felt that life made lying a necessity. Lying increased with IQ in Ackerson's group; Hartshorne and May found a positive correlation, but Slaght found no significant difference in the intelligence of his two groups. Hartshorne and May found that deception tends to run in families and in school classes. These authors point out that a particular example of dishonesty must be carefully evaluated and understood before any judgment is made. The value of this advice is evident when one considers the types and causes of lying.

Burt (1925) has divided lies into seven types, to which an eighth might well be added. (1) *The playful lie* which is essentially the

imaginative story of the younger child or the awe-inspiring tale of the older one. (2) *The confusional lie* which occurs when the child is required to report accurately events with which he is not well acquainted, and at the same time is distracted by cross-questioning (3) *The vain lie* whose purpose is to attract attention to the teller, pleasurable if possible but unpleasant if necessary. (4) *The malevolent or revengeful lie* which the child uses as a weapon of hate and revenge. (5) *The excuse lie* which is used to avoid the consequences of forbidden acts (6) *The selfish lie* by which the teller calculates to get what he wants by the deception of others (7) *The loyal or protective lie* which is told to protect another. (8) The one we would add may be called *the cultural lie*; in this would be included the lies required by the social amenities and, in the child, those told because of parental direction. The first three of these do not constitute lies in the dictionary sense of the word, and while they are frequently complained of, they are not real problems—except as others make them so. Likewise the eighth type is not a real problem because of its general social acceptance.

While parents and teachers complain that the child lies, the real problem is why he does. In general, we may answer the latter question by saying that lying is always a method of adjusting, albeit an unsatisfactory one. This is evident in the third to seventh types of lies earlier mentioned. The child who feels neglected, unwanted, insecure, or inferior may find satisfaction in telling tales of his adventures or in recounting imaginary events because, temporarily at least, he is the center of interest. In an attempt to "get even" for a real or supposed injury the child may spread accusations concerning his enemy. These may or may not be true, but the essential thing is the child's telling them. When accused of some misdeed the child lies to avoid punishment. If questioned, "Did you do it?" he has two alternatives. By a false denial he probably will escape punishment. If he admits his guilt and is punished he may believe he is being punished for being honest, whereas if he is not punished he may take it as permission to repeat the act. In cases of this sort it is probably wiser to secure the facts of the situation independently of the child. The antithetical selfish and loyal lies are similar in that they are both told to gain an end. Selfish lies may be told in situations where the child does not recognize any more socially acceptable way of getting his desires. Lying to protect a friend is sometimes praiseworthy, but

the child should be led to see that there are better means of protection, or that the other person is probably not worthy of protection.

The first two and the last types of lie can hardly be considered problems, but they may frequently be the starting points of other lying. The exaggerated stories and failure to stick closely to facts, common with young children, should be recognized as childish enthusiasm and not lying. Furthermore, the child should realize that the adult recognizes the inaccuracies. Imagination is to be encouraged, not stifled; but the adult must help the child learn to recognize facts, to see the value of restraint, and to keep distinct his imaginative tales and his actual experiences. If this is not done, then exaggeration—a species of falsehood—may become usual, or the child become lost in daydreams. If the imaginative stories and inaccuracies of the youngster are met by stern retribution and punishment, then he is forced to resort to real lying to evade the parents' anger and indignation.

The cultural lie is an accepted form of behavior, but we cannot expect that the child will be able to make distinctions among kinds of lies. The mother sends the child to tell the visitor she is not at home. To the mother this is a conventional way of avoiding unwelcome experiences; but to the child it is a falsehood which he may take as the justification for telling his mother that he has done some required thing, which he actually has not done because it was unpleasant to him. This is only one of many ways in which parents unsuspectingly present falsehood as a model for the child. Promises freely made and equally freely broken without explanation, deceptions practiced to get the child to do something, getting the child to lie to the other parent, and a host of other situations of frequent occurrence do not afford an environment in which veracity can be learned.

Therapeutic attention need seldom be paid to the lying itself; rather the psychoclinician must discover the reasons for the lie. As a first step in doing this the truth should be ascertained. In some measure it may be formulated from the stories of several informants. With some idea of the actual circumstances in one or more cases about which the child is accused of lying, the examiner is prepared to hear the child's own story. Most emphatically the child should not be accused of lying—enough people have already made that accusation. The better procedure, as Hartwell (1931) so well describes, is to put yourself at the child's level and talk to him about his troubles with sincere, sympathetic interest. With his previous knowledge the examiner

is better prepared to control the conversation. Always the information sought for is why the child lied. Once this is determined, then some effort may be made to correct the child's erroneous beliefs, or the parents' attitudes, or the inadequacies of his environment, or to help in overcoming his feeling of insecurity or inferiority, or in some other way making it unnecessary for him to lie.

Pathological Lying—This term has been given to an extreme, chronic type of lying. Not more than about two or three per cent of Ackerson's (1931) cases included such a notation in their histories. Healy (1915, 1917) defines the problem as being a chronic habit of falsification, which falsification is unrelated to any discernible purpose. Epileptic, insane, or feeble-minded persons are excluded from those who may be pathological liars. The lying usually takes the form of false accusations of others or of the self, or it may consist in the formulation of stories about the person's life and experiences.

Etiologic factors include predispositions of a constitutional or experiential nature similar to, or identical with, those found in more serious mental disturbances. Precipitating causes are found usually in psychic traumata, frequently of a sexual nature. In many, although not all, of the cases given by Healy, sex accusations and experiences are prominent. Occasionally the starting point for the prevarications may be found in an understandable effort to get revenge or avoid disaster. Ackerson found that the problem was more frequent in girls than in boys.

Pathological lying must not be confused with extensive lying of the types earlier discussed. The pathological liar has no point to his lying, he refuses to admit that he is lying—he may even fail to recognize that he is. Thus, one of Healy's cases, a girl of nineteen, fabricated convincing tales of having to support an old family retainer, and of the criminal career of her sweetheart, etc. When told point-blank that her story was false, she very quietly and demurely said, "I am sorry you think so." Such lying is probably symptomatic of serious mental conflict that may develop into a psychosis. While disciplinary and reeducation methods may occasionally be useful in therapy, the prognosis is probably not favorable if the neuroticism is too firmly set.

OTHER PROBLEMS

The eight types of behavior discussed in the foregoing pages by no means exhaust all of the conduct for which children are referred

to clinics, but they do represent those fields in which the more important and more frequently met problems lie. In this last section we shall briefly call attention to several other problems which, while they may be important and occasion great concern in certain cases, probably do not have the significance of the foregoing.

Swearing, Vulgar or Obscene Language—All vocabulary is of necessity learned from conversation heard or, at older ages, from reading. Vulgar, obscene or blasphemous terms are merely part of the vocabulary; therefore, they can be learned only by hearing them used by other people. One six-year-old boy seen in our clinic had a colorful vocabulary of curses and slang which he used in a mechanical sort of way, suggesting a complete lack of understanding of his terms. Investigation showed that such language was used freely in the child's home. While perhaps disagreeable to his school teachers and of very limited value to his own adjustments, one could hardly consider this boy's language a problem. Wise teachers in the school can probably teach him the inadequacy of his vocabulary and in some measure overcome the home influence.

In older children—or adults, for that matter—constant use of slang, curses or vulgar expressions indicates a lack of descriptive vocabulary. This may be due to low intelligence, or to lack of opportunity to build more adequate language habits. In some cases swearing may serve as a compensatory mechanism to give a feeling of confidence, much as stealing does. In most cases correction of the habit can be secured by eliminating such language from the child's environment and then reeducating the child.

Fighting.—Most boys and not a few girls get into a fight or two in the course of their life. Only when fighting becomes too frequent, or when it becomes dangerous because the child constantly picks fights, often with smaller children, can it be considered a problem. Fighting as well as other methods of *bullying* frequently are ways of showing the world that the bully is "somebody." It is often the aggressive expression of feelings of inferiority or insecurity. Warren Bertram, whose story is told by Mary Sayles (1928), fought and usually "licked" everyone, big or little. He agreed to be good to a baby brother at first, saying that later they could fight. His fighting and many other problems appeared to be based upon his jealousy of his brothers and father.

Destructiveness.—The child of pre-school or early school age is constantly exploring his surroundings. Such exploration may lead him

to take his toys apart, cut the drumhead to discover where the noise comes from, or even take the family alarm clock apart. All too frequently parents complain of the child's destructiveness when he does things like this. The solution for this sort of destructiveness is to supply the child with toys that can be taken apart without injury, with toys for building, and with an old clock and other worn-out mechanical instruments. There will then be no occasion to destroy family property.

Destruction of toys or other playthings also frequently accompanies an overabundance. Too many toys usually mean a lot of mechanical contraptions which are amusing when first seen, but which are of even greater interest when they are taken apart to see what makes them go. In fact, probably the only value to be found in such mechanical toys is what can be learned when they are taken part.

Undesirable destructiveness in young children is associated with a lack of training in values, with selfishness, and possibly with personality disturbances. Children have no inherent understanding of the value of property, or the relative values of different properties. The development of such an appreciation is one of the essential aims of child training. Absurd, thoughtless destruction suggests inadequate training—the selfish child has received inadequate training; so have many others. Sibling jealousy may be at the basis of destructiveness. One mother reported that her oldest girl broke her dolls' dishes, her dolls, and other things, and then demanded that her younger sister share with her. This was only one of several indications of the older child's jealousy. This undesirable type of destructiveness should be corrected by better child training where the training is inadequate, or by attention to the personality disturbance which appears to be the basis of the behavior.

In older children destruction of the property of others is, of course, a type of delinquency. With these children the reasons for it are much the same as those of younger children. In dealing with children thus accused, one must be sure that it wasn't accidental, and also that the accusation is not out of all proportion to the damage done.

Children's Suicides—There may be some question as to whether suicide in children is a psychoclinical problem. The justification must be that suicide or attempts at suicide are symptomatic of behavior difficulties.

Suicides among children are very infrequent. Hoffman (1928) re-

ports that in the period 1920-1925 there were 16,505 male suicides and 85,804 female suicides in the United States registration area. Among these, children were represented as follows:

| Age | Number | |
|-------|--------|--------|
| | Male | Female |
| 5-9 | 1 | 0 |
| 10-14 | 4 | 20 |
| 15-19 | 274 | 284 |

Kanner (1935) cites figures for subsequent years as follows: 1926, 40; 1927, 53; 1928, 36; and 1929, 33 children below the age of fourteen years.

These data give no support to a belief in the increase in child suicides during the last decade, and earlier figures indicate that the proportion has remained essentially constant. Hoffman gives the following data: In the period 1904-1913 there were 5 boys and 2 girls' suicides between five and nine years, and 132 boys and 100 girls between ten and fourteen years; in the period 1911-1915 there were 1 boy and 1 girl between five and nine years, 78 boys and 73 girls between ten and fourteen, and 825 boys and 1073 girls between fifteen and nineteen years of age.

In the 162 cases reported between 1926 and 1929, the following were the methods used:

| | |
|--------------------------------|----|
| Firearms | 79 |
| Hanging or strangulation | 44 |
| Corrosive substances | 14 |
| Drowning | 8 |
| Poisons (not corrosive or gas) | 8 |
| Gas | 5 |
| Cutting and piercing | 2 |
| Crushing | 1 |
| Others | 1 |

The causes of suicide or suicidal attempts in children are probably always related to unhappiness and similar depressing personality feelings. Several cases cited by Hoffman may be mentioned. A sixteen-year-old boy, son of a psychiatrist, who was withdrawn and avoided social contacts, killed himself after remarking that he saw nothing worth while in this world. A high school boy shot himself after writing an explanatory note that he was doing so to lighten the family expenses. A fourteen-year-old boy shot himself while angry because his mother would not let him follow his own Fourth of July plans. Another sixteen-year-old boy shot himself after leaving an

elaborate explanation, the essence of which was a confusion over the ultimate meaning of existence. This and other evidence suggests that the child with a withdrawn, introverted, schizophrenic type of personality is more apt to attempt self-destruction.

Kanner (1935) calls attention to the occasional cases when a child kills himself accidentally, but which appear to be suicide. He also says that suicide and attempted suicide may be a spite reaction. Suicidal attempts may sometimes be indulged in by problem children for the purpose of attracting attention or gaining other desires.

ILLUSTRATIVE CASES

As one reads the records of children seen in the clinic, or the cases which various authors have selected for publication, one particularly notices the lack of specificity in the nature of the problem behavior. Chiefly for this reason it has seemed neither wise nor desirable to attempt to present cases illustrating each of the special types of problem discussed in the foregoing. In the following pages we have presented a number of cases quoted from the studies cited. This small group is reasonably typical of the kind of problems being dealt with daily. Some of the accounts are more complete than others and probably none of them are as complete as we might like; they are written from different points of view and for different purposes. We present them without comment as illustrations, and as possible exercises for self or class discussion.

Case Number 22 (Foster, 1925). Undue concern on the part of the parents often causes marked changes in the personality of a child. After a serious illness or accident which has placed him in danger and caused anxiety in the household, it is difficult for parents to control him wisely. They may cease to exert authority, fearing harm will result, and it takes only a short time for a child to learn that with his symptoms he can control his environment.

We recently saw a child of nine who had been excluded from the public schools for a year because of conduct so vicious that she could not be tolerated in the group. She had been a normal, friendly youngster until a little more than a year before, when she was knocked down and run over by an automobile. She was taken to a hospital and remained unconscious for several days. Later examinations and X-ray observation showed no evidence of injury, although she complained of abdominal pain and headache.

Her family was most solicitous. The older children were made to give way to her wishes and she became the center of much attention and concern. No discretion was used in talking before the child; the whole affair was gone over in detail and the mother constantly asked her how she felt. Being easily suggestible, the youngster quickly acquired many physical complaints. Her frequent response became, "I don't feel well," or "My heart bothers me." If aroused, she would explode in outbursts of temper. Her conduct at school became defiant and belligerent. On one occasion she gouged the face of a schoolmate with her finger nails. Another time she pursued a boy into a delicatessen shop and threw an over-ripe tomato at him. After several trials she was finally expelled from school, having earned the reputation among the teachers and playmates of being "crazy"—a rôle which she, with her impulsive acts, well filled. The family obtained a private tutor for her, and this increased her claim to invalidism and caused her to stand out still further from the group as an unusual personality. When first seen at the clinic, she appeared to be in full command of her environment.

Physical examination showed no basis for her complaints. Psychometric tests gave her a "low normal" rating, with good general ability. The situation was gone over carefully by the psychiatrist with both mother and child. Arrangements were made to reinstate her in school. The whole matter was explained fully to the teachers, who, although dubious, after persuasion agreed to give her a chance. Emphasis was placed on a desire for good health, and the accident and its effects were minimized. All talk in regard to her symptoms was absolutely tabooed in the presence of the child. Her response was immediate. Her difficulties outside the home did not recur. She was given many wholesome opportunities for attention and approbation in her school contacts. At home the progress, although slower, was steady. The many personalities in the home made the task of changing attitudes a difficult one, but gradually this child is falling back into her proper relationship to the others in the household.

Case Number 23 (Rogers, 1933). An eight-year-old boy backed into a corner of the schoolroom, face livid, eyes partly closed, hatred in every line of his body, hurled an eraser at his teacher and shouted, "You shut your mouth! You can't make me do it!"

This particular tantrum on Dick's part was caused by the teacher's request that he go to his seat. Other tantrums, equally violent, made him a very difficult problem in school. Dick's diagnosis of the situation given in one of his better moments was, "Satan had my father.

I have a temper just like him. It's better to have a temper—you need it. When the Devil comes around, I just have to get mad." Dick had other satanic afflictions. He had a mania for knives and slept with one under his pillow, often threatening what he would do with it. He had always had night terrors, which would waken him screaming with fright. He showed a deeply sadistic streak, enjoying cruelty to pets and small animals and continually poking, teasing, and pinching children at school.

Needless to say, there was ample background to explain Dick's behavior. The mother, an attractive woman, had spent most of her childhood in an orphanage, and her adult years were given over to compensating for the boredom of the institution. Her promiscuity engendered a deep jealousy in Dick's father, and his fearful temper storms gave the boy the pattern for his behavior. The father's cruelty was known throughout the rural neighborhood, and his almost insane torture of some of the farm animals makes gruesome reading. More than once he threatened to kill his family, and his beatings terrorized the children. When he was sent to the penitentiary on a charge of rape, the mother became even more promiscuous and also more religious. She joined a revival mission and created a scandal by her actions with the minister.

She visits Dick quite frequently and heaps presents on the boy as she coddles and kisses him. Dick is quite upset by her visits and by her talk of taking him to live with her. After these visits he becomes irritable and more inclined to temper spells. He also shows a tendency to lord it over the other boys because of his more numerous possessions. Were it not for this outside influence, Dick would be making a completely satisfactory adjustment in the boarding home. Temper tantrums, sadistic impulses, vicious tendencies—all have disappeared.

Case Number 24 (Ebaugh and Lloyd, 1927). Genevieve, eleven years old, had stolen pretty things and food frequently during a period of three years before we saw her. She was referred to the clinic by the school principal, with a report of failure in school work for two years. She was at the time doing unsatisfactory fourth-grade work. Her grandmother, or rather her mother's stepmother, considered her a problem on account of her cruelty and selfishness toward her two younger half-brothers, and her utter lack of responsibility about the home. More important, however, than an enumeration of her offenses is our disclosure of some of the details of the mental mechanisms that led to her delinquencies.

We found a girl of good general development and nutrition, rather

pretty, but negativistic and sullen. The grandmother gave the early developmental history, which was negative.

Genevieve's psychological examination was most illuminating. Her I.Q. was 89. At times during the examination she impressed one as the dull-normal type, while at other times her answers were brilliant. Again she would become preoccupied and would not answer at all. She was rather obstinate, and we were afraid that no contact had been made. But at the end of the interview she asked to be allowed to remain and see the other children tested. She was curious to know the names of the other children the school had referred, and very frankly asked why she had been sent.

Situation: Genevieve's mother left her father's ranch at sixteen years of age. The step-grandmother was frank to admit that the mother had resented her coming into the home and had gone to a Middle-Western city to secure employment. At eighteen years of age she became illegitimately pregnant by a married man, and returned to her father's ranch for the birth of the child. Her father and brothers were most disagreeable, and her only friend was the stepmother. She had acquired city habits and hated ranch life and food. A substantial young rancher in the community wanted to marry her, but her father objected and forced her to marry a man of his own choice. By this union there were two boys, but the marriage was not satisfactory. There were incompatibilities and financial difficulties, and at present the husband is in the state hospital for the insane—diagnosis, general paresis.

After the husband was committed, his brother came to help with the ranch work. Gossip developed in the neighborhood. The mother would have married her brother-in-law, but could not secure a divorce. She had corresponded regularly with the patient's father in the Middle-Western city, and the news of his death was a great sorrow. Shortly after the arrival of this news, the mother had an attack of flu and died. A day later the brother-in-law also died of flu. The children were alone many miles from relatives in the dead of winter. An excited, well-meaning neighbor came to the house and told Genevieve about her illegitimacy, condemning the mother for leading an immoral life. Genevieve had been curious about the relationship between her mother and uncle, but the information that her mother was a bad woman and that she was an illegitimate child, with little or no chance of escaping from becoming bad also, completely occupied her thoughts.

Bad seasons and a fall in the price of cattle forced the maternal grandfather to sell his ranch. The children came to live with the step-

grandmother in a small town, while the grandfather went to California, where he could secure employment. Genevieve began being cruel to her brothers and stealing every time she thought about her mother. Unfortunately her history was well known and she was snubbed by her school playmates. She frankly says that she steals articles that can be given as presents to the children she likes and wants to attract. She has now some preoccupation about her illegitimacy, but worries mostly for fear her step-grandmother will die, as an uncle told her that in that case she and the boys would be put in an orphanage and that dreadful things would happen there. The child has thought of suicide.

This confession by the patient was a great surprise to the grandmother, as the child had never mentioned these things to her. After much hysterical sobbing, Genevieve begged the grandmother to move far away. The present arrangement is that the grandmother is to move with the children to California. She has excellent insight into Genevieve's difficulties, and the girl desires to remain with her. When last heard from, the child was progressing satisfactorily although there were a few reports of stealing.

Case Number 25 (Richards, 1927) A. B. was a girl of nine years when she was brought to us by her foster parents because of persistent lying, petty stealing of small change from home and school, aggressive indifference, Bolshevistic attitude in school, and auto-eroticism. The patient was an illegitimate child who was given for adoption at two years by a child-placing agency to Mr. and Mrs. B, who were childless. She had a normal development, so far as neurotic and physical data were concerned. At four the foster parents began to notice the above complaints and took her to various doctors without improvement.

Examination of the child showed a physically satisfactory girl, with an I.Q. of 125. She admitted all the accusations against her with an attitude of almost abstract indifference. The parents gave a perfectly smooth story with regard to training tactics and home influences, attributing all difficulties to bad inheritance. The child was placed for a period of study in the neutral environment of a boarding home, far enough away from Baltimore to cut off parental contacts, the parents agreeing not to visit her for a month. Two months here revealed the real facts of the case. The parents insisted on coming once a week, claiming that they could not bear the separation, they sided with the child against the boarding mother, who was attempting to carry out therapeutic suggestions given by us. For example, in an

effort to interest the child in active play, to offset the auto-erotic activities, she was dressed in simple clothes, such as gingham dresses and sturdy footgear. A. B. rebelled in favor of her former dainty dresses and light pumps. She refused to walk half a mile to school with the other children, saying that she was accustomed to being carried in her father's car. Her conversation showed familiarity with beauty shops, movie stars, a popular love serial running in the local paper, and so forth. One day the foster mother arrived, and finding the child disheveled in a rough-and-tumble outdoor game, rebuked her for so forgetting her parents as to behave in such an unladylike manner. I had a long talk with these foster parents of A. B., frankly telling them that they must choose between the health of this child and their own standards of foolish vanity which they wished to have exemplified in her. They insisted on picking on the unattractiveness of the boarding home, and finally took A. B. to Atlantic City for a month, to make up to her for what they construed as "ridiculous punishment." Our own contact with the case closed, and since then we have heard only indirectly of the child. A high-school principal telephoned me that she was on the point of expelling A. B. as a bad moral influence. (She had left school one afternoon with one of the boys and stayed out all night.) This teacher had asked the parents to bring the girl to us for examination, but they had refused, saying that they had already consulted our clinic and received no help whatsoever. A few months later the child-placing organization from which they had adopted A. B. wrote me that these foster parents were trying to take legal measures to return her to the organization as a "degenerate." Meanwhile these same parents had been given by the child-placing organization another little girl, "to try for a few years, with the view of adopting her if she proved satisfactory." She was of good parentage and as pretty as a picture, so the organization told me. Last summer they returned this child, now eight years old, to the child-placing organization, saying that she had developed all the distressing behavior traits of the unlucky A. B. Examination of her revealed the same picture presented by her foster sister almost four years before.

It was hard to make this organization, or any other intelligent person or group of persons, realize that a home so satisfactory from the standpoint of hygiene, economic sufficiency, and church and club affiliations could be so absolutely demoralizing in its subtle emotional influences. It is indeed hard to put the latter into words; yet the two children reflect parental attitudes and conflicts that are unmistakable. The foster father is a hard-working man who has struggled to get

on in life and keep up to his wife's expectations. Within the past few years their financial status has improved greatly. The foster mother is a woman who impresses one as making heroic attempts to put her best foot forward in every direction. One feels that clothes, household furnishings, and car are just a little bit better than she can really afford. It is she who undoubtedly sets the family living and social standards.

To furnish material over which she could better drape her vanities, she selected two pretty, attractive little girls, whom she tried to convert into French dolls. In her simplicity she forgot that these dolls were receptive personalities, richly endowed with the power of imitation. They copy her scornful attitude toward social inferiors, her overbearing manner toward servants and tradespeople, her distaste for and revolt against the irksomeness of routine, expressed in many a subterfuge. But when these habit responses are turned in her own direction, the foster mother becomes alarmed, and rationalizes her failures by blaming bad inheritance for the unhealthy behavior trends. For example, she would have A. B. punished for lying when she herself promised in the child's presence not to visit her but once a month in the training home to which we sent her, and then went there regularly once a week.

Case Number 26 (Babcock, 1927) Elizabeth has been chosen as typical of a very common problem presented to the Clinic. She is Portuguese, 16.5 years of age, and was referred for examination by the Social Service Bureau on account of a general maladjustment in the home.

Elizabeth was the youngest of a family of seven girls, and with her sister Katie had been brought up in a girl's orphanage until she was fourteen years old. At the time Elizabeth came to our attention she was living in Honolulu with her sister Annie who was married and had four children, two by a former husband. Katie, on leaving the orphanage, had gone to Hawaii to another sister. The general family situation may be judged by the fact that Katie had a child by her brother-in-law and then married in haste a good-for-nothing man whom she left after two weeks, returning to live with the brother-in-law by whom she had a second child. Following this, she came back to Honolulu with her two children to live with Annie.

Elizabeth then was living in a home which consisted of her two sisters, her brother-in-law, four children of Annie's, and Katie's two illegitimate children, plus four male boarders who lived upstairs in the house. Naturally, even in an ill-managed home there is a great

deal of work and Elizabeth was the family drudge, getting up at 5 A.M. to do the endless washing and the rest of the housework. Opportunities for recreation were very small; Elizabeth had been to the movies once during six months, had gone for a motor drive several times, was not allowed out on Sunday though she might have her two girl friends to see her.

The strain of overwork had the result of making Elizabeth emotional, irritable and peevish. The family continued to repress her and keep her in order. She finally discovered that her best weapon to bring them to terms was a fit of hysterics in which she would scream and yell and rouse the neighborhood. Punishment by the brother-in-law was ineffective, so that finally Elizabeth got the upper hand and would go into a tantrum on any pretext that occurred to her. The social worker was called in on one of these occasions when Elizabeth was having a hysterical fit because the sister, who was going to town to buy some furniture, broke her promise to take Elizabeth with her.

The mental examination and interview showed that Elizabeth was certainly not bright. She had only reached the fourth grade in school and her mental age was 9 years 9 months. She could not arrange the weights in year IX, and the X-year rote memory test (six digits) marked the limit of her ability in that direction. She could not give 60 words in three minutes, nor succeed in the reading and report test. The Porteus Maze test showed temperamental inadequacies also, her record being only 10 years. When the test became difficult Elizabeth made a very poor response.

From the interview with the girl it was seen that there were decided indications of instability and that her only way of affecting the attitude of others toward her was to give way to tempers and allow her emotional tendencies free rein. She was not able to adjust herself in a more intelligent way and lacked the initiative and planning capacity to seek any other avenue of escape. It was evident to the examiner that, unless her environment was changed quickly, an hysterical habit would result and her future adjustment would be difficult if not hopeless.

She was placed in another home, allowed control of her own earnings, and encouraged to manage her own affairs as much as possible. She did splendidly for three months, and then, over some trivial grievance or other, broke out into a violent hysterical spell. She had to be removed and, after a period back in her previous home, is now ready to make a new start. The outlook is, however, not bright. Earlier contact with the girl might have resulted in control of her

psychopathic tendencies, but at present she will need close supervision and constant change of occupation.

In a letter dated December 8, 1934, Dr Babcock adds some interesting subsequent history of this case. "On Sunday afternoon a few months ago five different men, all giving the same address, came to the Emergency Hospital for the ambulance to come get their wives. Each man reported that his wife was screaming with a terrible abdominal pain. The ambulance went three times and each time found the same woman, Elizabeth, in one of her screaming spells but in no need of medical care at all. When the last two husbands arrived with the same story they just told them to let her keep on screaming until she was tired Elizabeth is a prostitute and unstable as always, but still has not had to be sent to the Territorial Hospital."

Case Number 27 (Richards, 1920) M W. was a boy of eight in the third grade when first seen in March, 1918 He was referred for examination because his mother had written the teacher that M was a "nervous child" and should be put in the open-air class Aside from being fidgety and desperately mischievous, the teacher saw no signs of "nervousness" in the child, but dared not discipline him because of his mother's note

History: The father is a steady, thrifty worker; the mother an excellent housekeeper. There is one other child—a bright, healthy girl of ten years. The patient had a normal birth and early development. His habits of eating and sleeping were good. Out of school he was constantly active, leading the boys in play and trying by stealth to reproduce mechanical contrivances which he had seen, although his mother forbade his using tools for fear he would hurt himself. Two or three nights a week he went to the movies. The patient began kindergarten at five and came up at the rate of one grade a year He has always been an excellent scholar, but "more trouble to look after than the whole room put together." Three years previously, according to the mother, M W. began suddenly to have "shaking spells" which "commenced in his hands and went all over his body" During these attacks, he would drop anything in his hands. The family physician said that he was "on the verge of St. Vitus' dance" and should be kept as quiet as possible. His mother herself had noticed that these "spells" were apt to come on when he was irritated or crossed in any way. Both the family and school physicians reported his general physical condition as good.

Examination, March, 1918: The patient was a ruddy, talkative little boy who looked the picture of health Knowing that the examiner

was a physician, he began at once to talk of his "nervousness," in which he showed an energetic interest. When asked to reconstruct the setting of the first "shaking spell," he said it came on him one day when he had been called from play to go to the bakery. On the way back, he got so "weak and trembly" that he dropped the bread in a mud puddle. Since then the family had not trusted him to run errands, but had sent his sister instead. (What do people think about these spells?) "Mother is scared, and the doctor says I might have St. Vitus' dance." (And father?) "He tells me to cut it out" (Who makes you mind best?) "Father. I don't mind mother. She just keeps on talking and telling me what she's going to do, but I know she doesn't mean it." The patient was courteous enough to explain to the examiner, as a newcomer at the school, that the open-air class sat outdoors all winter and had "swell grub, too."

Neurological examination was negative. The heart sounds were clear and the pulse was normal in every respect.

Suggestions for Modification. The mother was seen again and the nature of her son's attacks was not only explained to her, but reinforced by a verbatim account of his opinion of her methods of control. It was urged that she drill herself into not worrying over the child, but insisting on instant and exact obedience, utterly ignoring any flapping and shaking he might display. It was also suggested that the boy be given as many concrete outlets as possible for his energy and development of initiative along constructive lines—for example, that he be given a workshop in the cellar or backyard and be allowed to work as he wished, building aeroplanes and other machinery which he wanted to construct, regardless of possible dangers from carpenter's tools.

Subsequent Notes, October, 1919. The patient is now leading the fifth grade. He and a chum have a shop in the cellar where they spend hours at a time, turning out some very fair models of the neighboring dry docks. The father says that M. understands every part of an automobile and often finds the hitch in a stalled truck which his repair shop mechanics fail to locate. A note from his mother reads, "Dear Doctor. Please ask M. is he nervous any more and who cured him?" The boy himself, in answer to the question, "How are the spells?" replies with a smile, "I don't have any more of them. I run errands now."

Case Number 28 (Neumann, 1928). Typical of the children in this group, except that he was more articulate than many of the youngsters, is Frank, a fourteen-year-old boy whose family has been known to

social agencies for the last eleven years. Both parents have a good background, but the father, twelve years the mother's senior, became a chronic alcoholic after the mother divorced him. She later married a half-breed Indian with whom she had already been living. She was considered so unstable that the children were removed by court order. When Frank was seven, he was placed in an institution—an up-to-date institution run on the cottage plan—for two years, except for a short period in a foster home. He was returned to the institution and then to his own home. The necessity for the present removal had been discussed with the boy by the child-placing agent, and he had acquiesced, although devoted to his mother. At the institution Frank was described as unruly; after return to his home, he was engaged in destructive gang activity and was a disciplinary problem in the schoolroom, although adequate in school work. In the study home, he was reported as a very active youngster, who played as much as possible with other children, but often teased the younger ones; who did his work well, but often called attention to himself by annoying behavior. One attendant noted, "He thinks it smart to be troublesome." His table manners seemed to be an especially sore point with the attendants; he chattered and even sang at the table and had food fads. The matron thought that the boy really tried to please, that he tried to play with the younger children, but did not know how to go about it. He was always dependable.

Frank's own story to the psychiatrist gives us our insight into his problem. He feels that his first mistake was a fundamental one. "I shouldn't have been born into such a family." He has no regard for his father because of his drinking and refusal to provide for the family. He has given all his devotion to his mother—but she also has betrayed him by remarrying. He is fully aware of the relationship that existed between the mother and the stepfather before their marriage. He sees many of the mother's deficiencies, but he always has an excuse for her, and nothing but hatred and contempt for his stepfather. His troubles were made worse by being sent to an institution. "That ain't no life for a kid," he says, and adds, "If I hadn't been there, they wouldn't have sent me to that home in the country." He feels that the reason he didn't get along in this home was that he was never really accepted by the family as their own. They made more fuss over their own children; when an accident to his hand necessitated a large doctor's bill, they shipped him back to the orphanage. (We must remember that these are not corroborated facts, but the boy's feeling about the situation after a five-year interval.) In regard to school difficulties he says, "Teachers say I'm too sensi-

tive and I'm flippy. I try awfully hard not to be and try to do my best, but they just don't seem to understand a kid like me." In regard to his table manners at the study home, he exclaimed, "Gee, I guess I must be talking too much I just thought I was doing the right thing in showing them all a good time."

Case Number 29 (Rogers, 1933). John came from a slovenly home in which there was little or no discipline. At the time that he and his sister, aged seven and ten, respectively, were removed from their mother because of her flagrant immorality, most of John's life had been spent in "running wild" in a very questionable neighborhood. The home situation had been such as to stimulate in the boy an overwhelming curiosity in regard to sex. The mother had lived with several men, and John had spent hours at the keyhole watching his mother and her latest companion, or the actions of the boarder and his sister. An atmosphere of filthy sex talk in the home added further elements to his fund of information, and even this was supplemented by spying on older boys and girls in the neighborhood. John early learned that his sex knowledge gave him a source of power and he was not slow in using it. He achieved a reputation among children of his own age, not only for his talk, but for his actions. He had persuaded several of the small girls in the neighborhood to engage in sex experiments with him. A complaint was lodged with the police when he initiated two other boys in various sex perversions. His language was a scandal in the neighborhood, so much so that even the firemen, with whom John loved to lounge about, chastised him on several occasions as an aid to public morals.

When seen in the clinic, it was felt that John was more saturated with an unwholesome and smutty attitude toward sex, and was more aggressive in sex matters, than any boy who had ever entered the department. Within a few moments after his introduction to the psychologist, he was inquiring whether that gentleman was married, and whether he slept with his wife!

The psychological tests showed that John, in spite of his alert manner, was a very dull boy, and this, combined with his attitude toward sex, made the outlook most unfavorable. It was felt that whether he was placed in a foster home or an institution, he was certain to "corrupt" the children with whom he came in contact. It was a very dubious experiment, and because of his extreme youth, it was decided to place him in the Thompson home.

The fear of John's influence seemed justified the first day of placement. Mrs. Thompson had been forewarned as to John's behavior,

but even she was scarcely prepared to hear a burst of obscenity directed toward the social worker as that individual started to drive away from the home. John was using his best means of gaining attention and he was highly satisfied to see the gaping astonishment on the faces of the other children. Mrs. Thompson immediately talked to John alone and told him in a kindly, but firm, manner that her boys did not speak like that and that if she ever heard such language again, she would wash his mouth with soap. This was the first and the last obscenity that John used as an attention-getting device. To be sure, when aroused, his swearing was extremely colorful, but this, too, gradually came under control. He did try other means of getting attention, as might have been expected. He began to tell "tall tales," which the foster mother met by replying with even wilder statements and then laughing away both as jokes. She refused to consider them as lies, and hence made it easy for John to give them up. She also gave him ample opportunity to gain attention in other ways; she asked him to perform little tasks for her; she praised him liberally when he brought home a good school paper; she told him of the improvement he was making.

In four months Mrs. Thompson was able to report that John was no longer swearing and was very proud of his progress along this line. She could also say that at no time had sex talk or sex practices constituted a problem with John. When his previous behavior is recalled, this seems nothing short of astounding.

A year after John's placement in the home, he was restudied at the clinic. Without a knowledge of his past, it would have been impossible to recognize this jolly, healthy, eight-year-old, full of amusing stories about life at "home," as the grave problem of the previous year. He told of earning his spending money, of the fun they had at Christmas, of his responsibility for wiping the dishes, in a frank, spontaneous fashion that seemed to have nothing in common with the smirking, sophisticated attitude of his first clinic contact. Even the memory of his own home seemed to have become dimmed and uncertain. He told the interviewer confidentially that he had had "another home," but regarded Thompson's very definitely as his "real home." To cap the climax of the transformation, John spoke with genuine horror of a boy on their street who actually swore!

Three and a half years have slipped by and John's excellent record continues. Nearly eleven years old now, he has developed into an attractive, friendly boy, with a very winning smile. He is truthful and dependable, though he is full of life and has to be handled with a firm and consistent hand. He is in fourth grade, doing "D"

work, which is all that could be expected of a boy of his mentality. He has developed an interest in nature study, and enjoys working with tools. He is liked by the other boys, and when Mrs. Thompson chose two boys to go on a trip with her as a special treat and a reward for good behavior, John was one of the boys.

Chapter X

JUVENILE DELINQUENCY

THE "bad" boy or "bad" girl exists only in so far as society sets conventional standards of behavior to which the child does not conform. His non-conformance is not a disease or an inherited depravity. Rather, it is a sign of poor behavioral adaptation for which society, the home, or the child is to blame. In the last analysis, stealing, lying, truancy, for example, are either results of inadequate training or symptoms of personality disturbances. In no case should we think of delinquency, whether legally or morally so defined, as behavior about which nothing can be done, and therefore be content with incarceration or other punishment. The attitude in dealing with the delinquent should be, "How can we help this child?" not, "How can we get rid of the child and protect society?" This last is often a pertinent question, but should be asked only as a last resort.

The auspices under which psychological clinics have operated most frequently, after the schools, are the juvenile courts and other agencies dealing with juvenile delinquents. The growth of clinics as part of the juvenile court organization, and the increasing use of other available facilities, sufficiently demonstrate the value of clinical study. Healy (1919) has summed up the values of such study thus: "We know on the basis of long experience that such medico-psychological study brings out points that are absolutely essential to knowledge of causation which, in turn, is the only rational approach to treatment. Short cuts to such knowledge are not possible; why should one expect to find them, considering the complexities of human behavior and mental life? And what are hours of study compared to months of effort which may be unnecessary, as in institutional life, or ineffective and misdirected under probation? Without desiring in the least to usurp the functions of the law, and without the least argument against punishment in appropriate cases as a good therapeutic agent, and holding no brief for any theory of either causation or treatment, we may insist on such study as representing a minimum standard of welfare in the

treatment of delinquency. A rational method of meeting the needs of the youthful offender, which indirectly affords, of course, the greatest protection to society by thwarting his prospective career, is only to be developed by utilizing the facts acquired through a good technic of medico-psychology. This procedure, carried out with sympathy and thoroughness, will contribute greatly to the effectiveness of courts and of other human agencies which attempt some solution of the problems of delinquency. Many of the huge number of failures which occur under the ordinary system it will be possible to avoid. Moreover, evaluating any method or regime as conducted under court or institutional auspices is rationally possible only when the essential facts of causation and potentialities of the human material handled form the basis of judgment."

Juvenile delinquency is technically the violation of laws or ordinances by children younger than a statutory age limit, which in most states lies between sixteen and twenty years of age. From this point of view, any given delinquency may or may not be of psychological significance. If a city has an ordinance that children must not play in the streets, yet does not provide playgrounds in congested areas, then those children who must play in the streets or else not play at all are legally delinquent. This delinquency could, however, be hardly considered of psychological import. There are other types of misdemeanor which are essentially similar to this one, but our discussion is not at all concerned with questions of law. Rather we want to discover what anti-legal or anti-social behavior is indulged in by children, if children who engage in such behavior exhibit any distinguishing characteristics; what the reasons are for such behavior; and how we shall deal with such children.

The crimes or misdemeanors committed by children include all of those possible for adults, plus one or two distinctly juvenile. In Table XLIX are shown the reasons for reference to 68 juvenile courts during the year 1932, as reported to the U. S. Children's Bureau (1935). The categories listed are sometimes so broad that they conceal certain acts and may be misleading. For example, the heading "ungovernable" probably includes a number of cases of girls who are really sex delinquents. These figures show only 19 per cent of the girls as sex delinquents, which is lower than the percentages found by other investigators. Thus, Burt (1925) reports 36.5 per cent of the delinquent girls in his group were delinquent in this respect.

TABLE XLIX —REASONS FOR REFERRING TO JUVENILE COURTS, 1932

| Reason for Referring | Boys | | Girls | |
|---------------------------------|--------|----------|-------|----------|
| | No | Per Cent | No | Per Cent |
| Auto stealing | 1,672 | 3 70 | 12 | 16 |
| Burglary or unlawful entry | 5,351 | 11 85 | 62 | 84 |
| Holdup | 349 | 77 | 6 | 08 |
| Other stealing | 12,116 | 26 80 | 780 | 10 59 |
| Act of carelessness or mischief | 13,390 | 29 60 | 655 | 8 88 |
| Traffic violation | 1,576 | 3 48 | 100 | 1 36 |
| Truancy | 2,281 | 5 05 | 720 | 9 76 |
| Running away | 2,907 | 6 45 | 1,153 | 15 62 |
| Ungovernable | 2,699 | 5 95 | 2,117 | 28 71 |
| Sex offense | 741 | 1 64 | 1,411 | 19 11 |
| Injury to person | 1,129 | 2 48 | 174 | 2 36 |
| Liquor or drug violation | 351 | 78 | 111 | 1 51 |
| Other reasons | 657 | 1 45 | 75 | 1 02 |
| Total | 45,219 | 100 00 | 7,376 | 100 00 |

These data, furthermore, represent only the reasons for reference to the court, and frequently this may be only one of several delinquencies. Fenton (1935) reports that of 400 boys at the Whittier State School, in only twenty cases did it appear from the commitment papers that the boys had been sent because of a single type of offense. In Table L are summarized data from three surveys widely separated in time and space. Healy's study, first published in 1915, is based upon 1000 delinquents referred to Chicago courts during the years 1909 to 1914, of whom a few were over twenty years old, but with an average of fifteen years. Burt's study, published in 1925, ten years after Healy's, is of 200 juvenile delinquents in London County. Fenton's data, published in 1935, are based on 400 boys from the Whittier (California) State School. In spite of the wide variation in time and place, these three sets of data show a surprising correspondence.

They agree in showing theft of various sorts to be at least one of the delinquencies in about 75 to 80 per cent of all boys, but in only 30 to 40 per cent of girls. Sex delinquencies are more frequent in girls, with approximately 30 to 40 per cent being so charged, while only around

tributed to differences in social conventions rather than to any biological difference between the sexes.

The percentage figures in this table will not total to 100 because they represent the number of times the particular act was found. Thus,

TABLE L.—CLASSIFICATION AND FREQUENCIES OF DELINQUENCIES

| Delinquency | Whittier State School (Fenton) | London County (Burt) | | Chicago (Healy) | |
|-------------------------|---|-------------------------|-------|--------------------|-------|
| | Boys | Boys | Girls | Boys | Girls |
| Number cases | 400 | 123 | 74 | 694 | 306 |
| THEFT | | | | | |
| Stealing | 74 8 | 78 9 | 43 3 | 65 5 | 31 7 |
| Burglary | 29 0 | 3 3 | 0 0 | 7 8 | 0 3 |
| Holdup | 0 8 | | | 0 9 | 0 0 |
| Auto theft | 35 0 | | | | |
| Forgery and swindling | 4 8 | 2 4 | 0 0 | 3 3 | 3 6 |
| Pickpocket | | | | 1 6 | 0 0 |
| SEX | | | | | |
| Assault | 4 0 | 2 4 | 0 0 | 2 2 | 0 3 |
| With opposite sex | 3 0 | 11 4 | 36 5 | 4 8 | 58 8 |
| With own sex | 6 5 | 3 3 | 1 4 | 4 2 | 2 9 |
| Not specified | 1 2 | | | | |
| Masturbation, excessive | | 4 1 | 2 7 | 4 6 | 7 2 |
| Indecent exposure | | 0 8 | 1 4 | 0 6 | 0 0 |
| Obscenity | | 2 4 | 7 6 | 1 4 | 4 2 |
| VIOLENCE | | | | | |
| To property | | | | | |
| Destructiveness | 6 5 | 3 3 | 1 4 | 3 3 | 0 0 |
| Malicious mischief | 2 5 | 6 5 | 0 0 | | |
| Arson | 1 8 | 0 8 | 0 0 | 1 6 | 1 0 |
| To persons | | | | | |
| Cruelty | 2 2 | 5 7 | 2 7 | 1 6 | 0 3 |
| Fighting | 2 2 | 8 1 | 5 7 | 6 1 | 0 0 |
| Carrying firearms | | | | 1 6 | 0 0 |
| Homicide | 0 5 | 0 8 | 0 0 | 0 6 | 1 3 |
| Wounding | | 6 5 | 2 7 | | |
| False accusation | | 0 0 | 4 1 | 0 7 | 5 2 |
| Insulting | | 0 8 | 1 4 | | |
| Other violence | 2 0 | | | 5 7 | 5 2 |
| Attempted suicide | | 0 0 | 1 4 | 0 6 | 2 9 |
| Threatened suicide | | 0 0 | 2 7 | 0 0 | 0 7 |
| TRUANCY | | | | | |
| All sorts | 51 8 | | | | |
| School | | 17 1 | 4 1 | 32 5 | 7 5 |
| Runaway | 49 0 | 12 2 | 7 6 | 37 6 | 24 9 |
| Vagrancy | 1 0 | 4 1 | 2 7 | 2 1 | 0 0 |
| Sleeping out nights | | | | 12 2 | 10 8 |
| EXCESSSES | | | | | |
| Smoking | 2 2 | | | | 0 3 |
| Temper | 1 2 | 3 3 | 6 3 | 3 0 | 5 9 |
| Reckless driving | 1 2 | | | | |
| Movie-going | 0 8 | | | | |
| Alcohol and drugs | 0 8 | | | 3 8 | 2 6 |
| Gambling | | | | 2 1 | 0 0 |

TABLE L—CLASSIFICATION AND FREQUENCIES OF DELINQUENCIES (Continued)

| Delinquency | Whittier State School (Fenton) | London County (Burt) | | Chicago (Healy) | |
|------------------------|---|-------------------------|-------|--------------------|-------|
| | Boys | Boys | Girls | Boys | Girls |
| Number cases. | 400 | 123 | 74 | 694 | 306 |
| HOME AND SCHOOL | | | | | |
| Incorrigibility | 16 0 | 5 5 | 12 2 | 13 3 | 12 8 |
| Inadequate home | 3 0 | | | | |
| Failure in foster home | 1 8 | | | | |
| Bad companions | 1 5 | | | | |
| School problem | 8 0 | | | | |
| Loafing | | | | 10 3 | 6 2 |
| MISCELLANEOUS | | | | | |
| Lying | 4 2 | 4 9 | 13 6 | 15 0 | 26 2 |
| Nuisance | 1 0 | | | | |
| Begging | 0 2 | 7 3 | 2 7 | 1 0 | 0 3 |

if sex delinquency and stealing occurred in the same boy, he would be entered twice. Blank spaces are left when the author did not report the delinquency, and zeros are used when the author's material indicates that it did not occur. The scheme of classification, and allocation therein, are the present author's.

CHARACTERISTICS

In order to gain a better understanding of the general problem of juvenile delinquency, it is necessary to know something about delinquents as a group. Such knowledge may be of only indirect significance in the study of an individual case, but it does give the psycho-clinician insight into the conditions frequently met with. A great quantity of literature has been published on sociological and psychological studies of juvenile delinquents. Their physical condition, intelligence, moral knowledge, school success, families, neighborhoods, companions, emotions, and other pertinent conditions have been studied and restudied. The uniformity in the findings of these many studies makes fairly definite certain characteristics of juvenile delinquents as a group. It is our purpose not to review all of this vast literature, but to summarize some of the more important findings.

Three extensive studies of large groups of delinquents are representative of the whole literature of this subject. Two of these are the

studies of Healy (1915) and Burt (1925), previously referred to. The third monograph is the report of Sheldon and Eleanor T. Glueck (1934) on 1000 delinquents studied at the Judge Baker Foundation in Boston. In our subsequent discussion we shall draw heavily from these three monographs. The fact that they are in essential agreement in so many points, in spite of being based on groups separated geographically by thousands of miles and temporally by decades, argues that the characteristics of delinquent groups are stable, and gives support to the argument of the preceding paragraph. The characteristics studied may be divided into those of the child, of the family, and of the community.

1 *The Child* Physical Conditions —Observations on the physical condition of groups of delinquents have been reported by a number of authors. Glueck and Glueck (1934) found, among 967 of their group, 56.7 per cent with good physical conditions, 30.2 per cent with fair, and only 13.1 per cent with poor. Anderson and Leonard (1919-1920), studying 1000 delinquents, found the following percentages, with the respective ratings of physical conditions: good physical condition, 20.3; fair, 45.4; poor, 32.7; bad (needing emergency care), 1.5. Burt (1925) reports poor physical development found in 21.3 per cent of his delinquents, and in only 5.5 per cent in the control group of non-delinquents. Physical pathology was evident in 69 per cent of his delinquents and in 54.7 per cent of his non-delinquents. It is probable that local conditions, and perhaps different standards of medical examination, are responsible for the variations in these sets of data.

Comparison of these percentages of defects with similar figures for non-delinquents indicates that physical defects are not particularly characteristic of the delinquent. For example, Burt found physical pathology in only about 15 per cent more of his delinquents than of his non-delinquent group. Surveys of school children show as high as 70 per cent with defects of one kind or another. Thus, Howe and Schenck (1914) report 65.6 per cent of 124,526 school children in New York State having defects, and Ayres (1909-1910) found this was true of about 73 per cent of 3304 children in New York City.

While delinquent children as a group probably exhibit no more physical deficiencies than any group of children, it is still possible that in an individual case a poor physical condition may be of etiologic importance. Healy (1915) ascribed physical condition as a major factor

in 81 of 823 cases, and as a minor factor in 419. Burt (1925) also considered physical pathology as a major factor in about ten per cent of his delinquents. Usually, the physical defect is but indirectly a cause of delinquency, as when a crippled boy steals because he cannot earn money for food, or a child with adenoids or a debilitated condition is truant from school, largely because he cannot keep up with the class.

Intelligence.—In our discussion of the social problems of feeble-mindedness it was pointed out that many surveys of children in institutions for delinquents have been made, and that they vary widely in the incidence of mental defect reported. Miner (1918), after a careful review of all the studies made previous to 1918, concluded that probably not more than ten per cent of juvenile delinquents could be considered as proper material for admission to institutions for the feeble-minded. This conservative conclusion has been well substantiated by subsequent work.

Three extensive studies of the intelligence of adult criminals are pertinent in the present connection. These investigations led to entirely opposite conclusions. Murchison (1926) found criminals had a smaller percentage of feeble-mindedness, Adler (1920) found the proportions to be equal, while Erickson (1929) found more feeble-mindedness among criminals. Zeleny (1933) has reanalyzed the data of these three studies, keeping the criterion of feeble-mindedness constant, and more accurately defining the control groups. From this reanalysis he demonstrated that the ratio between the proportion of feeble-mindedness among criminals and that among the controls was

TABLE LI —INCIDENCE OF FEEBLE-MINDEDNESS AMONG ADULT CRIMINALS

| Authors | Author's Interpretation | | | Zeleny's Interpretation | | |
|------------------|-------------------------|---------|----------------------------|-------------------------|---------|----------------------------|
| | Per Cent Feeble-minded | | | Per Cent below M. A. 11 | | |
| | Criminals | Control | Ratio Criminals to Control | Criminals | Control | Ratio Criminals to Control |
| Murchison (1926) | 14.4 | 16.3 | 0.881 | 17.8 | 14.3 | 1.261 |
| Erickson (1929) | 30.0 | 2.0 | 15.1 | 20.6 | 16.3 | 1.261 |
| Adler (1920) | 24.7 | 25.0 | 1.1 | 16.0 | 15.1 | 1.221 |

approximately the same in each study. The pertinent data are shown in Table LI.

We may also investigate the question of the mental ability of delinquents by studies of the distribution of intelligence test performance. Several such distributions, shown in Table LII, are typical of the

TABLE LII—TYPICAL I Q DISTRIBUTIONS OF JUVENILE DELINQUENTS

| I Q | Burt (1925) | Beane (1931) | Armstrong (1932) | | Glueck and Glueck (1934) | Fenton (1935) | Living- ston (1935) | Theoretical Distribu- tion |
|-------------|----------------|-----------------|---------------------|----------|--------------------------------|------------------|---------------------------|----------------------------------|
| Over 130 | 1 0 | | | | | 0 5 | 0 | 1 |
| 120-130 | 1 0 | | | | | 2 3 | 2 | 5 |
| 110-120 | 2 0 | 2 01 | 2 1 | } 0 9 { | } 41 6 { | 8 4 | 4 | 14 |
| 90-110 | 43 7 | 24 67 | 17 4 | | | 40 7 | 33 | 60 |
| 80-90 | 29 0 | 27 00 | 21 1 | } 42 9 { | } 28 2 { | 28 7 | 27 | 14 |
| 70-80 | 15 7 | 27 66 | 27 9 | | | 17 1 | 15 3 | 5 |
| Below 70 | 7 6 | 18 65 | 31 5 | 44 5 | 13 1 | 4 1 | 12 | 1 |
| No of Cases | 197 | 300 | 660 | 1379 | 979 | 393 | 407 | |

usual findings. It is evident that the data from each of these groups indicate a shifting of scores toward the lower I Q groups, with a rather abrupt decrease in the groups over 110 I Q. This skewness of the distribution indicates that as a group the delinquents are inferior to the general population. If, however, we make comparison with children from the same socio-economic groups who are not delinquent, such differences in distribution are not evident. Lane and Witty (1935) did this and found that delinquents compare favorably with the norms of the neighborhoods from which they come.

The average I.Q.'s of delinquents in institutions have been rather

TABLE LIII—AVERAGE I Q 's OF JUVENILE DELINQUENTS

| Author | Description | Average I Q |
|--------------------------|------------------------------------|----------------|
| Burt (1925) | 197 boys and girls | 89 |
| Healy and Bronner (1926) | 4000 delinquents | 90 |
| Merrill (1926) | 236 juvenile court cases | 81 |
| Armstrong (1932) | 660 runaway boys | 78 |
| | 1379 N. Y. Children's Court | 73 |
| | 553 N. Y. House of Refuge | 78 |
| Fenton (1935) | 400 Whittier State School for Boys | 92 |
| Livingston (1935) | 407 Indiana Boys' School | 89 |

consistently found to be between 80 and 90. Table LIII shows the mean I.Q.'s found in several representative studies published during the past ten years

This brief résumé indicates that the delinquents who are in institutions, or who come before courts, are as a group somewhat below average in intelligence. However, this can hardly be taken as a significant reason for their delinquency because when they are compared with children from their own socio-economic level their deficiency is not at all evident. As has been several times suggested, test performances of institutional delinquents may not be a fair estimate of the intelligence of delinquents in general because there is reason to believe that, to quote Morgan (1934), "Those who are intelligent use their intelligence to keep out of institutions whether they are criminals or not"

Temperamental and Emotional Factors —All studies agree in showing that delinquents exhibit a high incidence of abnormal mental traits that are non-intellectual in nature. Thus, 55.7 per cent of Glueck and Glueck's (1934) cases exhibited indications of mental unbalance. Of these, 350 individuals showed markedly abnormal suggestibility, sensitiveness, impulsiveness, and the like; 137 had aberrations in personality ranging from psychoneuroses to psychoses. Burt (1925) presents the following contrast in the incidence of emotional traits between his delinquents and non-delinquents.

| | Delinquents | Non-delinquents |
|-------------------------------|-------------|-----------------|
| Abnormal instincts | 59.4 | 12.0 |
| General emotional instability | 48.2 | 11.7 |
| Abnormal interests | 45.7 | 13.2 |
| Complexes and morbid states | 64.5 | 20.5 |

Healy (1915) lists a total of 291 cases out of 823 in whom some mental condition, other than intellectual lack, played a major part in their delinquency. The association of behavior disorders with delinquency is high. Glueck and Glueck (1934) found that 75.4 per cent of their delinquents exhibited such behavior as nail-biting, stammering, enuresis, gambling, masturbation, smoking, homosexual and heterosexual activities, drinking, and the like.

Education.—The educational achievement of delinquents is, as might be expected, inferior to that of non-delinquents. Fenton (1935) reports that 47.5 per cent of the boys at Whittier State School were retarded, while only 2.5 per cent were accelerated. Glueck and Glueck

found that 84.5 per cent of 935 boys were retarded one or more years; this compares unfavorably with only 37.8 per cent of Boston School boys retarded. Only 1.8 per cent of the delinquent group was accelerated. Among the delinquents studied, 397 boys had completed their schooling. Of these, 11.1 per cent had reached only the fifth or a lower grade, 71.8 per cent were in the sixth, seventh, or eighth grade, and 17.1 per cent had entered ninth grade or high school. Similar figures for Boston school children of the same age range show 1.4 per cent in the fifth or lower grades, 5.3 per cent in the sixth to eighth grades, and 93.3 per cent in the ninth or high school. Family economic need was given as the reason for leaving school by 65.7 per cent of the cases, and 15.1 per cent said they left because of dissatisfaction with school; only 2.9 per cent gave inability to do school work as a reason.

Fenton (1935) also reported that educational achievement as measured by standardized tests was low. At entrance to the Whittier State School the average boy was fourteen years of age, his M.A. was 13.2 years, but his educational age as measured by the Stanford Achievement Test was only 12.45 years. The average accomplishment ratio of this group was .95, which is lower than one would expect from an unselected group of school children of a similar intelligence level. The meaning of the poor school work is not entirely clear. It is true that delinquents tend to have inferior intelligence test performance, but the educational retardation is still greater.

Another factor of significance is the dissatisfaction with school. Burt (1925) says that in about 7 per cent of his school-age delinquents an uncongenial school was an influence. Fenton (1935) reports that of the 400 Whittier State School boys studied, 47.5 per cent had been truant before commitment, 25.8 per cent had disliked school, 18.8 per cent had had conflicts with teachers, 1.4 per cent had had difficulty with studies, and 11.5 per cent had had conduct problems. Bartlett (1935) found that 46 per cent of 119 boys at the Indiana Boys' School had been truants from school before their commitment. The poor social adaptation to school which is uniformly evidenced in studies of delinquents probably is partly responsible for the poor school achievement.

Vocational.—Because of the limitations imposed by age we should expect juvenile delinquents to have a very limited occupational history. About two-thirds of the Gluecks' (1934) cases were, or had been, employed. An analysis of their occupations shows that most of them

were either unskilled or not of a type who were likely to enter skilled trades. The analysis of these occupations is shown in Table LIV

TABLE LIV —OCCUPATIONS OF JUVENILE DELINQUENTS
(after Glueck)

| Occupation | Number | Per Cent |
|--|--------|----------|
| Street trades, newsboys, bootblacks, etc | 412 | 58 1 |
| Office, stock and bell boys, clerks | 110 | 15 5 |
| Factory hands | 81 | 11 4 |
| Helpers to unskilled workers | 36 | 5 1 |
| Helpers to skilled workers | 13 | 1 8 |
| Restaurant hands | 11 | 1 5 |
| Night work | 11 | 1 5 |
| Teamsters or longshoremen | 9 | 1 3 |
| Other legitimate work | 10 | 1 4 |
| Illegitimate work | 17 | 2 4 |

Companionship —Probably not more than one-fifth of delinquents engage in their delinquencies alone. In Table LV are presented

TABLE LV —PERCENTAGE OF COMPANIONSHIP IN COMMISSION OF DELINQUENCIES

| Author | Description | Per Cent |
|------------------------------|----------------------------|----------|
| Healy and Bronner (1926) | 3000 cases | 63 0 |
| Illinois Crime Survey (1929) | 6000 cases of stealing | 90 4 |
| Shaw and McKay (1931) | 3517 offenses of 1886 boys | 81 0 |
| Armstrong (1932) | 660 runaways | 13 5 |
| | 70 "unlawful entry" | 84 3 |
| Glueck and Glueck (1934) | 823 cases | 70 2 |
| Fenton (1935) | 282 boys | 82 6 |

the percentages of delinquents with companions reported by several authors. There is decided agreement among these investigations that usually the delinquent has one or more companions in his delinquencies. The apparent exception, 13 5 per cent of 660 runaways given by Armstrong, is quite consistent because, by the very nature of the delinquency, one could hardly expect companions. Such data as these strongly suggest that companions are a significant factor in the etiology of delinquent behavior. Other evidence concerning companionship supports this suggestion.

We read today a great deal concerning gangs and their criminal activities. Various investigators report different proportions of delin-

quents belonging to gangs. These variations depend in part upon how a gang is defined. The Gluecks (1934) say that at the Judge Baker Foundation a "gang" is defined as "a group of boys having a recognized leader, specific pass-words or rules, meeting at stated places and planning anti-social activities." A group without such formal organization is a "crowd." On the basis of these definitions, they found that 7.3 per cent of 978 boys were members of gangs, 18.9 per cent indulged in crowd activities and the rest did neither. Sullenger (1930), defining a gang as a group organized as a play group, found that 41 per cent of the delinquents in a small community were members. Burt (1925) reports that 11.4 per cent of 123 boys were members of a gang with three or more members, while among 74 girls not one was a member. Burke (1930) found that 28 of 82 offenders between seventeen and twenty-one years of age from the Chicago Boys' Court were members of gangs. Among 26 confirmed offenders, fifteen were known to be members of gangs, while only five of 28 non-repeaters belonged to gangs. These studies indicate that from one-quarter to one-third of delinquent boys, at least, are members of more or less formal gangs which have anti-social conduct as one of their activities, if not the most important one.

The group or club activities of delinquents in socially desirable agencies presents the converse picture. Reinhardt and Haiper (1931) compared 40 delinquent with 40 non-delinquent boys of the same age. The non-delinquents belonged to all sorts of constructive clubs and organizations, many belonging to more than one such club. In fact, only five of these boys did not have any such affiliation. In contrast, 25 of the delinquents belonged to no clubs at all. The Gluecks (1934) found a similar condition: 75 per cent of 971 cases had never been associated with such organizations as the Y.M.C.A., Boy Scouts, supervised playgrounds, or social settlements.

Age of First Delinquency—That delinquency begins at a surprisingly early age is shown by the data in Table LVI. These studies show the same percentage of boys beginning their delinquencies while, or before, they were eight years old. In the California group 57 per cent began at ten years or before, while the Boston group showed 63 per cent in this age class.

2 The Family Nationality and Race—As early as 1900, Drahms showed that at every census between 1850 and 1890 the proportion of foreign-born among juvenile and adult offenders was greater

TABLE LVI —AGE OF ONSET OF DELINQUENCY

| Age | Fenton (1935) | | Glueck and Glueck (1934) | |
|---------------|-----------------|----------|--------------------------|----------|
| | No | Per Cent | No | Per Cent |
| 6 and younger | 28 | 16.6 | 88 | 13.7 |
| 7-8 | 33 | 19.5 | 145 | 22.6 |
| 9-10 | 35 | 20.7 | 170 | 26.4 |
| 11-12 | 36 | 21.3 | 136 | 21.2 |
| 13-14 | 37 | 21.9 | 104 | 16.1 |
| Total | 169 | | 643 | |
| | Median 10 years | | Mean 9 years, 7 months | |

than the proportion in the general population. Koren (1907) more carefully analyzed the data and showed that when the foreign-born, the colored, and the native-born whites are compared on a basis of age, the first two groups still show a relatively high proportion among juvenile delinquents. Practically all investigators who have considered the problem have agreed with the conclusions of Koren.

In Table LVII are summarized data on the parental nativity of delinquents. It will be seen that those studies which are based upon

TABLE LVII —PARENTAL NATIVITY OF JUVENILE DELINQUENTS

| Author | Number of Cases | Percentage | | |
|------------------------------|-----------------|------------|---------|-------|
| | | American | Foreign | Negro |
| URBAN GROUPS | | | | |
| Healy (1915) | 915 | 25.5 | 69.9 | 4.6 |
| Edmondson (1921) | 102 | 26.5 | 66.6 | 6.9 |
| Burke (1930) | 798 | 23.9 | 61.4 | 14.6 |
| Shaw and McKay (1931) | 8141 | 22.2 | 68.7 | 9.1 |
| Glueck and Glueck (1934) | 976 | 13.2 | 86.8 | 5.7 |
| Average urban | | 22.2 | 70.7 | 8.1 |
| RURAL AND MIXED GROUPS | | | | |
| Beane (1931) | 300 | 90.0 | 10.0 | |
| U S Children's Bureau (1935) | 32,844 white ♂ | 54.0 | 46.0 | |
| | 5,168 white ♀ | 63.0 | 37.0 | |
| | 45,284 mixed ♂ | | | 20.0 |
| | 7,427 mixed ♀ | | | 14.0 |

urban groups show about 22 per cent native parentage, 71 per cent foreign parentage, and 8 per cent colored.

Edmondson (1921) further analyzed her data to show the following:

| | Percentages Delinquents 1912-14 | Population 1908 |
|-----------------------------------|---------------------------------------|--------------------|
| Native white | 26 5 | 45 4 |
| Old immigration (northern Europe) | 7 8 | |
| New immigration (southern Europe) | 58 8 | 52 2 |
| Colored | 6 9 | 2 4 |

From these data it is clear that, for urban areas at least, foreign parentage is a frequent concomitant of delinquency.

However, the distribution of cases from 68 courts throughout the country as reported by the U. S. Children's Bureau (1935) is about even; and Beane's (1931) study of Indiana, a predominantly rural state, shows a much higher proportion of delinquents of native parentage. Thus it would appear that foreign parentage is a significant factor chiefly in urban communities.

Foreign parentage, *per se*, is probably not the significant factor. Taking the data of the Gluecks (1934) as typical, we find that native sons of native parents and foreign-born sons of foreign-born parents both contribute less than their share of delinquents, the former about 55 per cent and the latter only about 35 per cent of the expected proportion. In contrast with this are the native sons of foreign-born parents, who contributed about two and a half times as many delinquents to the group as might have been expected from their proportion in the total population. Similar findings have been reported by other investigators, and they have rather uniformly been interpreted as an indication of conflict between the Old World culture of the parents and the New World culturalization of the children. Thus, Nick, whose story is told by Shaw and McKay (1931), at fourteen wanted to play ball with other boys of his age, whereas his parents wanted him to work. When he refused to do so they interpreted his behavior as downright rebellion, and tried to cure him by beatings. Such treatment led to running away from home, minor stealing from home, and severe temper tantrums.

Economic Status—The concomitance between poverty and many kinds of social pathology has led many writers to claim a causal relationship. Such a relationship may exist in some cases but probably not in all. Burt (1925) says that 16 per cent of his delinquents were from families below the poverty line, and by far the majority of these offenders were reported for theft. This offense constituted 81 per cent

of the offenses of poor delinquents, but only 63 per cent for those delinquents who were in a more comfortable economic position. He further contrasts this proportion of 16 per cent with only 8 per cent of the population of London living below the poverty line; the "moderately poor" groups include 37 per cent of the delinquents, but only 22 per cent of the general population. The Gluecks (1934) found only 23.7 per cent of 925 families of delinquents living in comfortable circumstances, with 81 per cent completely dependent. Beane (1931) found that 58.3 per cent of 300 girls come from poor homes and another 35 per cent come from homes rated as in "sufficient" circumstances, with only 7.6 per cent from "moderate" and "very good" financial circumstances.

Healy (1915), however, reports only four out of 823 cases in which poverty is a major cause of their delinquency, and 59 cases with this as a minor cause. These apparently contradictory data of Healy are not really in opposition to other figures reported, as his data represent only those cases in which he felt that poverty itself was a major or minor cause. Except possibly in the case of stealing, it is probable that the concomitants of poverty—poor neighborhood, overcrowding at home, parental worry, and inharmonious homes—are of greater significance.

While the Gluecks (1934) found only 8 per cent of the cases coming from economically dependent families, they found that the homes of 62.2 per cent were "unwholesome" in the sense of overcrowding and poor hygienic conditions. Burt (1925) reports a similar finding inasmuch as he found overcrowding about one and a third times as frequent among the homes of delinquents as among homes from the same social level. Similar evidence is furnished by Baker, Decker, and Hill (1929), who compared 84 children accused of stealing with a matched group of non-delinquents and found that while there was no significant difference between the groups in economic status there was a difference in favor of the non-delinquents in degree of overcrowding.

Moral Standards—That the moral standards of the home may have a relationship to juvenile delinquency seems certain. The Gluecks (1934) found that 86.7 per cent of the delinquents studied by them had relatives with a delinquent or criminal record, and most of these were members of the immediate family. Healy's (1915) figures are much lower than these. He attributes the major cause of the delin-

quencies to vicious family in only 62 of 823 cases and lists this as a minor cause in 95 more cases, i.e., in only about 20 per cent of his cases did he regard immoral or criminal home conditions as causal. Burt (1925) found only two cases where there was direct criminal encouragement from home, but his data offer a vivid contrast when they show that vicious home circumstances occur in 66 per cent of his delinquents and only 10 per cent of his non-delinquents.

Broken Homes.—In Table LVIII are summarized a number of studies showing the incidence of broken homes among delinquents,

TABLE LVIII—BROKEN HOMES AND JUVENILE DELINQUENCY

| Author | No | Delinquents | | | Controls Total |
|--------------------------------|----------|-------------|------------|-------|-------------------|
| | | Death | Separation | Total | |
| Breckenridge and Abbott (1912) | 584 | 34 0 | 7 6 | 43 3 | |
| Shideler (1917-18) | 7,598 | 36 4 | 10 6 | 50 7 | 25 0 |
| Burt (1925) | 200 | 25 9 | 15 7 | 57 9 | 25 7 |
| Healy and Bronner (1926) | 4,000 | | | 49 0 | |
| Slawson (1926) | 1,649 | 35 6 | 9 6 | 45 2 | 19 3 |
| N. Y. Crime Commission (1928) | 201 | 30 0 | 15 0 | 45 0 | |
| Crosby (1929) | 314 | | | 45 5 | 26 0 |
| Burke (1930) | 766 | | | 37 5 | 22 0 |
| Beane (1931) | 300 | 42 3 | 25 3 | 69 0 | |
| Shaw and McKay (1931) | 1,675 | | | 42 5 | 36 1 |
| Armstrong (1932) | 649 | 39 0 | 13 0 | 52 0 | |
| | 18,976 | 23 5 | 14 4 | 37 9 | |
| Glueck and Glueck (1934) | 966 | 26 7 | 21 3 | 48 0 | |
| Fenton (1935) | 400 | | | 59 0 | 25 0 |
| U. S. Children's Bureau (1935) | 42,037 ♂ | 21 0 | 10 0 | 31 0 | |
| | 6,737 ♀ | 30 0 | 17 0 | 47 0 | |

and also determined or estimated incidences of broken homes in the general population. There is rather close agreement among these studies that about 50 per cent of delinquents come from broken homes, the average of these percentages being 47.7. There is a similar agreement that the incidences of broken homes in the general population is about 25 per cent. Thus, we find that homes are broken by death, divorce or separation about twice as frequently among delinquents as in the general population.

More detailed analysis of the figures discloses what may be pertinent conditions. In the first place, as shown in Table LVIII, homes of delinquents are broken by death about twice as frequently as by separation. How this proportion compares with that in the general population we do not know. However, some suggestion is given by Burt's

(1925) study Among his delinquent group homes were broken by death in about 30 per cent of the cases and by separation in about 16 per cent, while among his control group of non-delinquents death was the reason in about 17 per cent and separation in less than one per cent If Burt's data are at all characteristic, it is evident that homes broken by separation with its almost inevitable preceding discord are significantly more prevalent among delinquents

Evidence on the relative effect of loss of father or mother is conflicting. The U. S. Children's Bureau (1935) data show that among 7 per cent of the delinquent boys the mothers only are dead, in 12 per cent the fathers only are dead, and in 2 per cent both parents are dead Among the girls, 12 per cent of the mothers and 15 per cent of the fathers are dead; 3 per cent have lost both parents. These figures suggest that when the child is living with the mother there is greater tendency to delinquency On the other hand, Burt (1925) reports that 16.2 per cent of his delinquents were living with the father and only 3.5 per cent with the mother Further information concerning this point would seem to be desirable

The Gluecks (1934) have distributed their cases according to the age at which the home was broken; the results are as follows.

| | |
|----------------|---------------|
| Before 5 years | 40.3 per cent |
| 5-9 years | 35.0 " " |
| 10-14 years | 22.4 " " |
| 15 and over | 2.3 " " |

Armstrong (1932) has also analyzed her cases according to age at which the family break occurred, with the results shown in Table LIX. The findings of these studies would suggest that the younger the child when the break in his home occurs, the greater influence it will have upon him

TABLE LIX.—AGE AT WHICH BREAK IN FAMILY OCCURRED
(after Armstrong)

| Age | Runaways | Incorrigibles | Unlawful Entry |
|---------------|----------|---------------|----------------|
| Before 1 year | 9.3 | 3.3 | 10.5 |
| 1-3 | 19.3 | 36.7 | 10.5 |
| 4-6 | 28.3 | 20.0 | 21.1 |
| 7-9 | 23.2 | 23.3 | 15.8 |
| 10-12 | 15.3 | 13.3 | 36.8 |
| 13-15 | 4.5 | 3.3 | 5.3 |
| No. of cases | 600 | 30 | 19 |

Family Relationships —Shaw and McKay (1931) say, "Our case histories suggest that the subtle emotional relationships between members of the family are often significantly involved in the boy's delinquent behavior." Statistics concerning such factors were not available for their cases, nor are they usually available. The Gluecks (1934) report information concerning 813 families of delinquents. Among these were found 21.7 per cent broken by separation, desertion, or divorce. Of the remaining 636 families, about four-fifths of the parents were living together congenially; the other fifth exhibited "gross incompatibility but without open breach."

Relationships between parents and the delinquent child are also of importance. Again the Gluecks (1934) have data which showed that there was an unwholesome relation between father and son in 11 per cent, and between mother and son in 5 per cent, of the cases. This unwholesomeness means quarreling, lack of affection, and hostility. There was mutual indifference between father and son in 21 per cent, and between mother and son in 13.2 per cent, of the cases. These data suggest that delinquents get along better with their mothers than they do with their fathers. Similar findings are evident in Fenton's (1935) group, in which there were conflicts with fathers in 10 per cent and with mothers in only 2.8 per cent of the group. The boy's attitude toward his home as gleaned from his own comments is shown in Table LX, from Fenton.

TABLE LX —DELINQUENT BOYS' ATTITUDE TOWARD HOME
(Fenton)

| Comments | Number | Per Cent |
|--|------------------|----------|
| Satisfactory home | 191 | 49.1 |
| Dissatisfaction | 198 | 50.9 |
| Conflict with father | 39 | 10.0 |
| Conflict with mother | 11 | 2.8 |
| Conflict with stepfather | 17 | 4.4 |
| Conflict with stepmother | 12 | 3.1 |
| Conflict with, or dislike for, sibling | 51 | 13.2 |
| Lack of affection for family | 23 | 5.9 |
| Feels unwanted or out of place | 20 | 5.1 |
| Parents favor sibling | 19 | 4.9 |
| Doesn't want to return home | 6 | 1.5 |
| Total | 389 ^a | |

^a More than one comment sometimes came from a single boy.

When that aspect of the parent-child relationship expressed in disci-

pline is considered, the findings appear to be very significant. Burt (1925) reports defective discipline in 60.9 per cent of his delinquents and in only 11.5 per cent of his non-delinquent group. This figure for the delinquent group is surprisingly corroborated by the Gluecks (1934), who found that about 70 per cent of both fathers and mothers used unsound discipline, including too great laxity or too extreme rigidity. With 41 per cent of the fathers and only 25 per cent of the mothers could disciplinary measures used be considered good.

3. *The Community*—Investigators of the problems of delinquency have tended to study the child first, then his family, and lastly the community from which he comes. If not the first, certainly the most comprehensive ecological study of delinquency was made by Shaw (1929) between 1921 and 1929. This research was a socio-geographic study of approximately 60,000 juvenile and adult offenders in Chicago. In a subsequent study, Shaw and McKay (1931) presented much of this material, with confirming evidence from six other American cities. The results of these studies may be conveniently presented in summary.

(1) Juvenile delinquents are not uniformly distributed throughout the cities but tend to be concentrated in areas adjacent to the business and heavy industrial areas.

(2) There are wide variations in delinquency rate in different areas, the rate tending to vary inversely with the distance from the center of the city. Burt (1925) found an essentially similar condition in London.

(3) The areas with high delinquency rates have high rates over a long period of time.

(4) Delinquency areas are characterized by physical deterioration, decreasing population, high dependency rate, high percentage of Negro and foreign-born, and high rates of adult crime. Burt (1925) gives an essentially similar finding, with a correlation between delinquency rate and overcrowding of .77, with the poverty rate of .67, and with poor relief of .48 in the 30 Boroughs of London.

(5) The greatest concentrations of delinquents occur in areas of marked social disorganization, and in these areas delinquency is traditional behavior.

(6) While the nationality and racial composition of the high delinquency areas completely changed between 1900 and 1920, the relative rates of delinquency remained practically the same. As the older immi-

grant groups moved to new geographic locations their delinquency rates showed a decrease

From this résumé of the general characteristics of juvenile delinquency we may summarize:

(1) The delinquents show mental retardation represented by an I.Q. between 80 and 90 (2) They are more apt to be emotionally and temperamentally unstable. (3) School achievement and grade placement both show retardation (4) Delinquent behavior starts at an early age, and more often occurs with companions. (5) The occupations engaged in by those delinquents who have worked are at the lower end of the economic scale (6) Delinquency is frequent in native-born children of foreign-born parents. (7) The homes of delinquents are economically and morally poor (8) The family relationship as shown by broken homes, parent-child attitudes, and methods of discipline is psychologically poor (9) The communities from which delinquents come are more frequently socially disorganized and physically deteriorating.

CAUSES

The description of the characteristics of delinquents, their families, and the neighborhoods from which they come, while it may afford suggestive clues, does not answer the question of etiology. The average intelligence of delinquents is low, but there are some who must be classed as superior. A large proportion come from broken homes, but many live in homes that would be rated high by any standards. The delinquency rate is high in poorer, disintegrating areas of cities, but there are delinquents in even the best sections of cities, and certainly rural and semi-rural areas are not free from them. Many, perhaps most, juvenile delinquents exhibit a disproportionate number of other conduct and personality problems, although not all of them do; and many children exhibit behavior problems who could never be called delinquents. As with all other types of behavior difficulties, we cannot speak of a cause, or even a necessary constellation of causes, of juvenile delinquency. The reasons for exactly the same delinquent behavior in two children will probably be quite different. One child steals because he is hungry, another because he has been taught to do so, another because a companion suggests it or dares him to, still another because the thing stolen or the very act of stealing gives him a feeling

of strength that is otherwise lacking. In dealing with the delinquent we must think of the child not as a violator of the law, but as one whose behavior is socially unacceptable. There is a reason for that behavior, and it is the task of the psychologist to discover it. This can be done only by careful and intelligent study of the child's history and an understanding of humanity.

In Chapter IV we briefly discussed the feeble-minded delinquent, but even in such cases we cannot think of the feeble-mindedness as a *cause* of delinquency. Rather, the low intelligence is coincident with a lack of appreciation of what anti-social behavior means, therefore this person succumbs to temptations or momentary impulses more easily than a person of higher intelligence. Witness Bill, in Case Number 7, who killed a man because he called him a name and then years later just as naively confessed to the crime. The feeble-minded delinquent, or even adult criminal, should be dealt with as an incompetent rather than by being punished. The feeble-minded offender committed to a boys' or girls' school or a penitentiary for a number of years will be a distinctly social risk when he is discharged, whereas commitment to an institution for the feeble-minded will solve society's problem for the balance of the offender's life.

That family discord and emotional strains, vicious neighborhood influences, direct stimulation and training by parents or others, economic conditions and a host of other factors are of etiologic importance in delinquency cannot be doubted. It is well-nigh impossible, however, to discuss such causative factors in a general way. A much better appreciation of such influences can be gained from a consideration of cases. In the following pages we shall present a number of selected cases which illustrate the kinds of influences and relationships of factors which have been found in cases brought before courts on charges of delinquent behavior.

The first group of three cases (Numbers 30, 31, 32) illustrate delinquent behavior as symptomatic of personality disturbances in the children. Sally is of low mentality, but she recognizes that she compares unfavorably with her sisters. Hers is Cinderella's lot. She tries to escape by leaving home, and later as a kitchen drudge she steals in a pathetic attempt to make life fuller. Harry tries to overcome his feeling of insecurity—arising from the conflict between the attitudes of his father and mother—by spending, and he must steal to get the money to spend. Billy's delinquencies are only an incidental part of

his emotional objection to what he considers his father's immorality. Thus, even these three cases show that delinquency may depend upon subtle factors in the child which are entirely unsuspected.

Case Number 30 (Tiebout, 1926) Take the case of seventeen-year-old Sally, who came to the clinic with a record of stealing. In early childhood, following a long illness during which she received an undue share of her mother's care and attention, a change in disposition had been noted. She became fretful, petulant, rather demanding, feeling that she did not get the consideration due her, her actions tending to estrange her from the family. Aided by a kindly school system, she did manage to graduate from an elementary school at sixteen, but for many years she had recognized that her sisters, all of whom were younger, were of distinctly good intellectual attainments and quite able to surpass her record. She came to feel herself the "ugly duckling" and developed a vivid fantasy life, which, a year before she was referred to the clinic, led to her running away to find the place of her dreams.

She was apprehended and taken to the Detention Home instead. There her mental age was found to be about ten years, giving her an IQ in the sixties. She was paroled and, following the suggestion that she do unskilled labor, housework was found for her, despite her objection that ever since she could remember she had been helping her mother do the housework at home. However, she was informed that that was what she could best do. For a year and a half she had been shifting around, hopeless, dissatisfied, and with little or no encouragement from home or anywhere else. Finally she began stealing systematically from her employer, spending part of the money on herself, but adding two dollars to her weekly wage which she turned over to her mother with the pathetic statement that her work had been so satisfactory that she had been granted this raise.

Surely this girl's feelings of inferiority and her unsuccessful efforts to compensate resulted not so much from her actual mental level as from her reaction to the situation in the home. Vocational guidance for Sally must take into consideration, in addition to her limited intelligence, her feelings toward her limitations. Recommending housework in this case violated the tenet that a job must in some way bring compensations for previous inferiorities. The patient had been made more or less of a kitchen slave at home, had developed a profound distaste for the work, and resented the implication that she was fitted for nothing else. It is not a surprising outcome that she became restless and unhappy and indulged in stealing to gain some of the satisfactions

of having money with which to splurge, as well as to make a good showing to her mother

Case Number 31 (Allen, 1927). Harry was a boy of fourteen who embezzled a considerable sum of money from his employer, and was using the money for making a big splurge at a local amusement park. Previous to this serious offense, he had stolen small amounts at home. The main sources of the difficulty in this case were:

1. A very over-solicitous mother who insisted upon treating this boy as an infant. Before company he was always introduced as "my baby." She supervised all the details of his clothing and dressing, she gave him spending money only as he needed it, and in many other ways prevented him from growing up.

2. The father, a large, masculine type, was very stern and rather repressive in his handling of the boy, and somewhat inclined to scorn his lack of virility and his rather infantile type of personality. This discrepancy in the attitudes of his parents was having a very destructive effect upon the self-respect of the boy.

His decision to leave school at fourteen to go to work was a significant gesture of the boy to test himself. He felt very insecure about himself, particularly in relation to the somewhat older adolescents whom he met in his work and at school. The desire to establish himself was a very keen one, but his background had given him very little confidence in his ability to do this in a normal way. The stern and awe-inspiring discipline of the father, combined with the coddling of the mother, did not make a very firm foundation upon which the boy could stand when placed on his own. The quickest way to gain his goal and to compensate for his obvious immaturity was to get money. He proceeded to do this and to make the impression that he felt was necessary if he was to become a "regular fellow." It was also an opportunity to prove to himself that he could do something unsupervised by his mother.

Case Number 32 (Healy, 1922). A boy of almost twelve years, Billy S., has been stealing for three years, very repeatedly and from various sources, a couple of times rather considerable amounts. Recently he stayed away from home on several occasions, once as long as five days. His father joined in the court complaint against him. On examination the boy proved to be normal physically and mentally, although somewhat retarded in school work. From school and from home we received reports that he was unusually reserved.

Now, viewing the facts as they were obtained from the several

sources, one might offhand have explained this delinquency as "bad inheritance," if one's pet theory was centered on heredity; for even a little investigation showed a record of considerable family misbehavior. But then one might also have picked our poor recreational advantages or immoral neighborhood influences. As a result of the ordinary investigation, the home, however, was considered good; to be sure, the mother was dead, but a housekeeper, evidently competent, kept the house neat and clean; the father earned well and was good to the children.

Following the report of the boy's extreme reserve, even at home where his father was kind to him, we felt the necessity of an approach which would dig up the foundation of this mental and social reaction, not normal at all in such a degree. A chance for the boy to talk quietly and an inquiry conducted with patience first brought out the fact that there had been a companion, Dick, who had been the earliest influence in development of the idea of stealing. But the crux of the affair appeared with the revelation of unsuspected facts. Suddenly, as if to lay bare the heart of his trouble, he blurted out, "I go away because I don't like to stay there; it's no good; he's not married to her. Dick told me about these things."

What this boy revealed was verified curiously enough in this case with the help of the father himself, who did not conceive that his own liaison could have anything to do with his son's types of misconduct.

If the situation had not come out, unfortunate ideation, repression, and delinquent reactions to the inner mental life undoubtedly would have gone on to most undesirable habit formation. It was clear that reconstructive measures were needed in a complex situation that was not at all brought to light during the inquiry in court.

The next two cases demonstrate the influence of vicious, criminal parents. This is also shown by the Associated Press report from Dallas, Texas, under date of February 15, 1936, that a 41-year-old man had trained his two sons to steal and with them as a nucleus had formed a gang of twelve more boys. He fed and housed the gang and gave them no opportunity to change their mode of life.¹ How frequent such direct training is cannot be easily estimated, but that it does occur cannot be doubted. Even without such direct teaching, the models afforded by such parents can hardly lead anywhere but to delinquency.

Case Number 33 (Shaw, 1930) My stepmother sent me out with William (my stepbrother) to pick rags and bottles in the alleys. She

¹ From the Indianapolis *Star*, February 16, 1936, vol. 33, no. 256, pt. 1, p. 7.

said that would pay for my board and make me more useful than fretting and sulking at home. I did not mind that in the least. In fact, I enjoyed it, because I was at least out of the old lady's reach. I began to have a great time exploring the whole neighborhood—romping and playing in the alleys and "prairies," gathering rags, bones, and iron, and selling them to the rag peddlers. This romping and roaming became fascinating and appealed to my curiosity, because it was freedom and adventure. We played "Indian" and other games in the alleys, running through the old sheds and vacant houses. Then we gathered cigarette "butts" along the street and took them to the shed, where we smoked and planned adventure. I was little and young, but I fell in with the older boys. Outside in the neighborhood, life was full of pleasure and excitement, but at home it was dull and drab and full of nagging, quarreling, and beating, and stuffy and crowded besides. . .

One day my stepmother told William to take me to the railroad yard to break into box cars. William always led the way and made plans. He would open the cars and I would crawl in and hand out the merchandise. In the cars were foodstuffs, exactly the things that my mother wanted. We filled our cart, which we had made for this purpose, and proceeded toward home. After we arrived home with our ill-gotten goods, my stepmother would meet us and pat me on the back and say that I was a good boy and that I would be rewarded. Rewarded, bah! Rewarded with kicks and cuffs.

After a year of breaking into box cars and stealing from stores my stepmother realized that she could send me to the market to steal vegetables for her. My stealing had proved to be very profitable to her, so why not make it even more profitable? I knew it was for my own good to do what she wanted me to do. I was so afraid of her that I couldn't do anything but obey. Anyway, I didn't mind stealing, because William always went with me, and that made me feel proud of myself, and it gave me a chance to get away from home.

Every Saturday morning we would get up about three o'clock and prepare for the venture. William, Tony, and his two sisters, and I would always go. We would board a street car, and the people on the car would always stare at us and wonder where such little kids were going so early in the morning. I liked to attract attention of people and have them look down upon me with curiosity. The idea of my riding in a street car at that early hour appealed to my adventurous spirit and keyed me up to stealing. In the street car William would give me orders on what to steal and how to go about it. I listened to him with interest and always carried out his orders. He had me in the palm of his hand, so to speak. He got the satisfaction of ordering me and I

got the thrill of doing the stealing. He instructed me how to evade peddlers and merchants if they gazed at me while I was stealing. After arriving at the market, William would lay out the plan of action and stand guard while I did the stealing. He knew what the step-mother wanted, and he always filled her orders to overflowing. All in all, I was a rather conceited little boy who thought himself superior to the other boys of his age, and I didn't miss impressing that little thing upon their minds. I was so little that the peddlers were not suspicious of me, and it didn't take long to fill our baskets and be ready for the journey home. All spring, summer, and fall did we go to the market, and never did I get caught and never did we go home with empty baskets.

Stealing in the neighborhood was a common practice among the children and approved by the parents. Whenever the boys got together they talked about robbing and made more plans for stealing. I hardly knew any boys who did not go robbing. The little fellows went in for petty stealing, breaking into freight cars, and stealing junk. The older boys did big jobs like stick-up, burglary, and stealing autos. The little fellows admired the "big shots" and longed for the day when they could get into the big racket. Fellows who had "done time" were big shots and looked up to and gave the little fellows tips on how to get by and pull off big jobs.

Case Number 34 (Burke, 1930). John Zubawezas, native white, parents born at Lithuania. Father in United States 35 years, mother 23 years. Present age, 21; age at time of offense, 20. Boys' court hearing November 17, 1925. Robbery. Held for grand jury. Bail \$10,000. Committed to county jail. Charge stricken out with leave to reinstate in criminal court January 7, 1926. Lives at home. Family: Father 56, mother 40, sisters 20, 18, 13; brother 16. Sister died in 1918 when four years old. Mother works away from home.

John is a tall, well-built boy, careless in his dress. He talks little and gives the impression of being somewhat stubborn and not very bright. He has a definite grudge against society in general. He was sent by the boys' court to the psychopathic laboratory, where the examination showed him to have a mental age of 12 $\frac{3}{5}$ and to be a low-grade sociopath plus dementia praecox katatonia +3.

John's court record began early. In May, 1916, when nine years of age, he was in the juvenile court as a truant and was sent to the Chicago Parental School. In November of the next year he was accused of breaking into a freight car. After continuances this charge was dismissed, and on a truant petition he was committed again to Chicago

Parental School in December. In January, 1919, he was sent to the juvenile court for two burglaries and a robbery. This time he was sent to the St. Charles School for Boys. In May, 1921, after burglary of a garage, he was again sent to St. Charles. In May, 1924, he was released from juvenile jurisdiction "with improvement." He had already been in the boys' court before this release. In July, 1923, he was accused of two burglaries, in which he was said to have stolen shirts and gloves from a clothing store at night. The charges were changed to larceny, and he was sentenced to 60 days in the House of Correction and given a \$1.00 fine. In March, 1924, he was again accused of burglary and this time was held for the grand jury on a bond of \$15,000. He was discharged. In December of that year he was accused of three holdups with a gun, and also of larceny. He was held for the grand jury on bonds of \$20,000 and was sentenced to six months in the House of Correction. The offense included in this study is the next and the last offense recorded against him. In December, 1925, he was accused of holding up a restaurant and on this robbery charge was held for the grand jury on bail of \$10,000. He stayed in the county jail for two months, until the charge against him was stricken out with leave to reinstate.

John told of all the offenses with which he had been charged. In most of these he claims to have had no share. As to the first he said "They accused me of stealing shirts, but I bought the shirts at a bargain sale. I was innocent but got 60 days in Bridewell." As to the second: "They charged me with breaking into a store, but they didn't have no proof so I got off." As to the third: "They claimed I held up people, and folks said they identified me, but they lied. I got six months in the Bridewell." He then described a street fight after which he says he was arrested and discharged. This does not appear on the police record. In regard to the offense included in this study, he said "I was charged with robbing a restaurant, and it was another guy. He got stuck in the Bridewell, and I got off." He says that he has been in trouble again since this offense and after the information had been obtained from the police record. "The last time was for stealing an automobile, but I didn't do it. I was knowing who did, and because I wouldn't squawk the judge soaked me 30 days in the Bridewell." He said that he has been in jail three times and that he has never had bail. "When I get in trouble I just have to 'root hog or die,' as they say in the St. Charles School." When asked as to conditions in jail, he said "The law means for the jail to be a bad place, and I guess the guards live up to the law in that way." He says that he has not changed his conduct at all since his appearance in court. "The court

ain't got me scared one bit. I ain't got nothing against the judges, but I'll get square with the cops."

Almost everything known about John's home and life would have influenced him in the direction of an evil career. He lives in one of the worst neighborhoods in Chicago, where the tenement houses are crowded and run down, the streets are filthy, and there are many factories. At the time the family first became known to social agencies the mother was forced to ask for relief from a family-welfare agency because of the irregular employment of her husband John, the oldest child, was at that time 6 years old. Mr. Zubawezas had not worked regularly for two years, and during all the time that this agency knew the family (about four years) he never worked regularly. Although she had four small children, the mother worked down town as a char-woman at night for \$39 a month. The father stayed around the house, but did not take proper care of the children. All the members of the family suffered from undernourishment and periods of actual privation during these years. The father was not only shiftless but cruel and abusive. His treatment of his wife was especially brutal. The mother said that when the two youngest children were born he refused to allow her to have any help. At the birth of one of them he locked her in the house alone and for an hour after the baby's birth she had no one with her. Once when he was drunk he tried to attack his small daughter, the mother interfered and was unmercifully beaten herself. He was sent to the House of Correction, but upon his return behaved no better and bragged that no one could make a good man of him. The mother was afraid to leave the little girls with him. He used to eat all the food in the house and throw the dishes on the floor if there was no meat for supper. He also drank the milk which the Visiting Nurse Association left for the baby. He whipped all the children "just for fun" and whipped the baby when it was only 7 months old. The father even took all the bed clothing from the mother and children for himself. During this time the mother was described as a good housekeeper and a hard-working woman, as well as a good mother. The father, however, did not allow her to discipline John. He upheld John in any wrongdoing, and when his mother tried to get him to stay in at night, the father told him to stay out as late as he wanted to. He told John to pay no attention to anything his mother said and did not remonstrate when the boy threw things at his mother. The father also filled John's mind with foul language and vile suggestions. He used obscene language and performed obscene actions in his presence.

During these years the father was in the court of domestic relations

and was sent to the Bridewell several times. In 1911 he served six months in the Bridewell for cruelty to the mother. In July, 1912, he was in prison for beating his wife. In December, 1912, he was in the court of domestic relations charged with abusive treatment of his wife, but she refused to testify against him, as she was afraid of being beaten again. The judge gave him another chance. In January, 1913, Mr. Zubawezas was placed on probation in the court of domestic relations to pay \$10 a week to the mother. In June, 1915, Mrs. Zubawezas was taken very ill and was sent to the county hospital. The children were sent to a children's home to stay while the mother was in the hospital. During a 4-year period 16 different agencies were trying to help the family. At one time the home evidently became unbearable for Sophie, the oldest girl, for when she was 13 years old she ran away from home after stealing \$50 worth of clothes from a store. She slept in hallways part of the 10 days she was away.

At the present time, however, the mother and Sophie and the other girls have succeeded in making a much better home. The family have six rooms, of which four are sleeping rooms. They pay \$20 a month rent. The apartment is on the first floor of a 2-story and basement house. The home is attractive, very neat and clean. There are starched white curtains, clean bedspreads, and shining glass in the china cabinet. The work of the house is divided and arranged systematically. The mother does the housework before she leaves in the morning. In the evening the younger boy and girl bring coal in from the shed and start the fire, and Sophie comes home first and prepares supper. The mother and sisters get along well, but the mother scolds John and John seems to have no respect for her. John dislikes his sisters, and his sisters dislike him. The father has been working steadily now for two years. Sophie says that he feels he is getting older, and as it is difficult for an older man to get work he sticks to his job. The children have planned that as soon as the two youngest (now 16 and 13 and in the eighth grade of school) get to work the mother will stop working. She is still scrubbing office floors four days a week and sometimes five, making \$16 a week. Florence, the next oldest girl, works in a factory and earns \$15 a week. John is the only one who is not employed. The father makes \$25 to \$35 a week as a common laborer. Sophie, a pretty, attractively dressed girl, refined in manner, is a typist earning \$15 a week. Sophie is quite sure that she does not want to marry until she is a good deal older, for she has the example of her mother before her, who married before she was 18 and has had to work all her life. She seems genuinely fond of her mother and her two sisters. She spoke sarcastically of her father. She says that Louis, the younger boy, is

almost as snippy as John but that he has not yet gotten into any real trouble. Sophie and her sister Florence have the same friends, boys and girls, and have many good times together. Florence goes to business college at night. John goes with an entirely different group of people, and Sophie says that she does not know them at all. The mother gets little time for relaxation or society. The family go to church, and the younger children attend parochial school and belong to various church and school clubs.

Starting to school at 6 years of age, John was known as a truant in less than a year. He attended a parochial school and completed the seventh grade. He did not return to school after leaving St. Charles in 1919, as he said he got interested in other things and did not want to go back to regular school. His ideas of education he stated as follows. "Schooling is all right if you get the right kind. This stuff they teach you in most schools is no good at all. What a fellow needs in school is to learn a trade and not to waste time learning a lot of history and grammar." He has no desire to study any further. In 1917 the school reported to the juvenile court that his attendance was very poor and his conduct and scholarship fair. The principal of St. Charles School reported that his school work was fairly good and that his deportment was excellent.

John first went to work in 1920 as a factory hand, earning \$12 a week. At the time of the offense included in the study he had no work, and he had none at the time of this interview. He says he has had about 25 jobs. When asked why he left them he said: "How do I know? Sometimes the boss did not like me and fired me off the job, sometimes I just got sore on the job and quit." As to employers he said. "They are alike. Some are bad and others are worse. All they want is money, and they don't care what happens to you. They ain't humans any more. If they can take from everybody else like they do, I might as well take from some who has more than I've got." His sister said that after the offense studied and before he was sent the last time to the House of Correction he worked for seven or eight months as a cook. Since he has come out of the House of Correction he has not worked.

Of his various commitments to institutions, twice to the Chicago Parental School, twice to St. Charles, and three times to the House of Correction, he said. "It won't do any good for me to tell you about those places. You will go up there, and they will cover things up and you will just figure I lied. If you want to try out some of them places just go get in Dutch with the cops, and then you won't need anybody to tell you."

John's sister says that he is seldom at home. He occasionally comes in for supper and sometimes appears for a little while in the evening. He is never at home on Saturday or Sunday. The mother and sisters have given up trying to keep him in the house. The former says that when he works he is all right but as soon as he gets out of work he goes with his gang and gets into trouble. As to his early difficulties John said "I never got into no more trouble than the other boys. I got into trouble with a cop, and ever since that they have been hounding me. They are to blame for most of my trouble. They started beating me when I was a kid of a boy."

John had always associated with a group of boys now known as the "—— street gang." Nine of these boys were recently convicted of manslaughter and sentenced to prisons for terms of one year to life. John was not implicated in this robbery and murder, as he was in the police station at the time of the holdup. He spends his spare time now with the remaining member of the gang. He says that he likes dancing and the "movies" and drinks "moonshine" occasionally.

During the conversation John expressed various bits of his philosophy of life and of his reaction to life as he had seen it. He is very bitter and thinks nothing worth while. He feels that it is unfair that he was born without money while others have money and never have to work. He is against established authority and against society, as he knows it. He describes himself as a Bolshevik, indicating his general attitude of opposition rather than any definite social creed. As to his own behavior he said "Well, what are you going to do in this community? There ain't no place to go, and you can't stay on the streets after dark but what some copper comes along and pipes up, 'Whatcha doing there? Move on!'" Again he said, "When you get out of your own neighborhood and see how lots of other folks live in this old world, how they have swell houses, cars, and everything, it makes you feel like things ain't right. I just feel like jumping in the river and stopping it all."

From his earliest childhood John has lived in a home where there was domestic discord, where his mother worked, and where his father was in every way a bad influence. Irregular earnings and unemployment of his father brought poverty and undernourishment to the children. The neighborhood in which he grew up offered little that was better than his home. It is scarcely surprising that John has grown up stubborn and anti-social. It is very much to the credit of his sisters that in the same home environment they have been able to grow up into fine young women. However, John was subjected to his father's evil influence even more than the other children, and his emotional

constitution, according to the psychopathic laboratory, has always been defective. With this history the difficulties that a court—equipped as was the boys' court—had to overcome if John's viewpoint was to be changed were almost insurmountable. Nevertheless, the efforts that have been made would not have been likely to bring success in any case. Discharges of one kind or another and short sentences to the House of Correction have been the only treatment given since he left the jurisdiction of the juvenile court.

Regardless of parental attitudes toward, or activity in, delinquency, the child who lives in a vicious neighborhood or who gets into a delinquent gang will have difficulty in avoiding delinquency himself. A. B. lived in a poor neighborhood and *did run* with a "bad" gang. In addition, he was directly influenced by a shady junk dealer who helped and stimulated the boys to steal. Patrick, on the other hand, lived in a good neighborhood and had an apparently excellent home. But his association with a "roughneck" gang was of chief etiologic significance in his delinquency.

Case Number 35 (Shaw and McKay, 1931) In the neighborhood in which I lived there were mostly Italians and Croatians. There were always street fights, drunkards, and there were all kinds of petty thieves. The buildings and homes were dirty and shabby looking and the streets were likewise. Then there were some tenement houses and rooming houses and there were a few factories.

I was 11 or 12 when I associated with some young roughnecks and petty thieves and I got my ideas from them. We used to steal milk off people's porches and break open the bread boxes in front of the stores early in the morning after the breadman left and we would take the milk, bread, and cakes to our clubhouse in the middle of the block, and in the rear of the house facing the alley was a barn where a Negro fellow left his horse and wagon. In the attic of this barn was our clubhouse and to the left of the barn was a junk yard where we used to build fires and hang around late at night. To the right of the barn was a house, and next to the house was a garage. Across the alley was Mr. Smith's shanty where he kept his coal and did his business. Us kids, or in other words, our gang, used to help Mr. Smith make his deliveries. He would sell his coal by the bag at 35 cents a bag. Whenever another coal man was making his deliveries and left his wagon load of coal sit in the alley or street, a couple of us kids would steal the wagon load of coal and take it down to Smith's shanty and unload the wagon of coal. We would then drive the horse and wagon

about a mile away and leave it along the street. Then we would catch a street car and come back to the shanty to get our money. Smith would give us a couple of dollars for the wagon load of coal and we would go down to Guy's restaurant and get something to eat and then we would go to the shows. There we would see and hear the pretty girls dance and sing.

Smith had a junk yard, too, and he bought junk and sold it. He had a big bunch of us kids that stole all kinds of junk for him in the neighborhood and in other neighborhoods. We would drive with Smith to some neighborhood and look around by an old house. We would go in the old house and Smith would drive away a few blocks and we would get all the old iron, bottles, and lead and pile it in the alley or some safe place and then Smith would come back to get it. Sometimes Smith sent us out to steal from junk yards and from junk wagons. He always paid us money or candy or cigarettes. I stayed with him for two years and then got into the auto racket.

Smith let us have our clubhouse in his barn as pay for stealing for him. Sometimes we would sleep in our clubhouse and sometimes in summer we would sleep in the other old buildings.

I have a mother and father. My father had no trade, so he worked as a common laborer whenever he could find work. He was a steady worker. My mother took care of the house, as we had six boarders at the time, so it kept her quite busy at home. I have two older brothers and three sisters. I would help at home by chopping wood and clean the snow off of the sidewalks in the winter and run errands for my mother. I did not realize at the time how serious these petty crimes were. I thought I was smart to do those things. I got in the habit of stealing and thought nothing of it. Somebody would dare me to throw a rock through the window of a department store or steal, and I would do it for the kick I got out of it.

Case Number 36 (Burke, 1930). Patrick McGinnis. Native white. Father born in Ireland, mother native white. Father in United States 25 years. Present age, 19, age at time of offense, 17. Boys' court hearing, July 2, 1924. Disorderly conduct. Continued under supervision of a private agency. Discharged September 14, 1924. Lives at home. Family: Father 46, mother 44. Mother worked away from home. Patrick is a neat, well-dressed, and nice-looking boy of medium height and weight. He is clean cut, extremely shy but seems to have a belligerent disposition.

Patrick's court record includes one charge of disorderly conduct a few days before the offense included in the study. Patrick said: "The

first time I was just in a fight on the street. I belong to the —— Ball room gang and we all got in a fight with some other gangsters and the cops picked us up. They turned all of the fellows loose that they knew. The rest got stuck. I didn't get a fair break from that cop that night. The night copper at —— station tried to get the cop to send us home but he wouldn't." According to the court record the officer stated in court that there had been no reason for the arrest and Patrick was discharged. The next time, Patrick said, "I got arrested and I deserved it. I was with some boys and we had all had a few drinks and we were raising the devil, but the court was square with me, as well as the cops. The judge gave me a chance when he could have sent me away. I appreciated the chance and it gave me a lesson." The court continued the case while it was investigated by a representative of a private agency. At the same time, the boy was to report to the superintendent of the society. Of this man Patrick said: "He is a good and a sensible man. He put me straight, and I have a high regard for him. That man could help any boy out who has any sense or self-respect." His court experience has given Patrick a good opinion of the general effect of the court. "That boys' court is a real good place for a boy to go rather than other courts I have seen. I think Chicago ought to keep it, it helped me, and I know other boys it has helped." At the end of two months' supervision Patrick was discharged by the court.

Patrick's family live in a good west-side neighborhood with nice homes and a large park a block away, offering various forms of recreation. The father owns the apartment house in which the family occupies a 6-room apartment. In the home, which is furnished rather elaborately but in good taste, are a phonograph, radio, books, and magazines. Usually the family has only three members, but at the present time, owing to the mother's illness, her sister is there caring for her. The father is a contractor and evidently makes a good income. The mother had been working for many years in a position that brought her in contact with social problems. The attitude of the members of the family toward one another seems normal and natural. The parents are fond of the boy and seem to be very good to him. The mother has been anxious for him to obtain a good education and has been somewhat disappointed that he did not want to go to school longer and take up a clerical or professional line of work.

Patrick entered school at 5 and left at 17, when he graduated from high school. "I have had all the school I want," he said. "I would not have finished high school except that mother would have been hurt. I don't care for office work or any kind that takes a lot of

schooling to do. What I like is something in the way of electricity or building. I want to be a sheet-metal worker if I can't get into the electrician's union. That is what I am trying to do now. If I can, that is all I will ever do." At the present time Patrick is not employed. Two months ago his former employer went out of business. Since that time Patrick has been waiting for an opportunity to get into electrical work. He has had several jobs offered him but has not accepted them. At the time of his court experience he was a clerk in a store at \$22.50 a week, his first position after leaving school. Patrick said, "I had a very good job as a clerk and I got on fine, but I don't like work where you meet people all the time. I had rather work hard and tend to my own business than to sit around and to be all the time bawled out by some customer. If I can't be an electrician I want to be a contractor some day. Mother thinks I ought to do something else, since I have a high-school education, but I know what I like best."

In talking of his conduct difficulties before his boys' court experience Patrick gives some rather illuminating comments on life as he found it for a boy in his district. "I have had no trouble besides what all boys do. I had street fights but I never lay out of school or stole or done anything like that. If a boy keeps his self-respect and belongs to a gang or lives in a neighborhood where lots of boys are he has to fight. I don't do it because I like to but because I have to." Since his boys' court experience Patrick says that he has had no troubles except a few fights which were forced upon him. "I am learning to stay out of fights, though I find if I don't have much to say to a tough, I don't get into so much to fight about." As to his companions Patrick said "I run with some pretty tough eggs in my gang and on the streets, but I don't see them often now since I got out of high school. Now I spend most of my time with other friends. We go to parties at each other's homes. Sometimes we go to dances and shows down town. I am better satisfied to go with these friends for they are not such roughnecks. I never have fights with them. They are civil and nice and don't have so much fight in their codes of honor." The father also says that he has had no trouble with Patrick except his fighting. However, the father thinks that it is natural in a boy and especially in his son. "I suppose he come by it naturally; I was the same way when I was coming up."

Mr. McGinnis thinks that the supervision given Patrick through the court was very beneficial. He said that the agent of the society was of real value. "His association had a good effect upon Patrick. He has been more serious-minded ever since that time." He says

that Mrs. McGinnis also approves of this supervision and that she is very much in favor of this system of supervision by a private agency.

Apparently Patrick's difficulties have arisen from his connection with a rather rough group of boys. Having a harmonious home and no particular problems he will probably have little more difficulty. Since his court appearance he has not been arrested and, according to him and his family, has engaged in fewer fights. For a boy of Patrick's type the supervision accorded by the court was probably very suitable treatment.

The succeeding two cases are excellent illustrations of the resultants of family attitudes. Anton's home and neighborhood are vicious and poor. He has neither the intelligence nor will to avoid the temptations offered by his environment. Steve's behavior and that of his brothers and sisters are evidently means of escaping from the intolerability of the home.

Case Number 37 (Bulke, 1930). Anton Neita. Native white. Father born in Poland, mother native. Present age, 19, age at time of offense, 17. Boys' court hearing, March 27, 1924. Assault with a deadly weapon. Placed on probation for six months, April 26, 1924. Discharged from probation at expiration of term. Result "doubtful." Lives with sister, at time of offense lived at home. Family. Stepfather 42, mother 40, at home. Sister 23, married and living in her own home. Sisters 17, 10, 8, 7; stepbrother 8. Father died in 1923. Sister dead. Mother worked away from home until six months ago.

Anton is a slender boy of medium height, undernourished in appearance, rather untidy, and not very clean. In conversation he is evasive, talks little, seems dull, and gives the impression of being a backward, if not feeble-minded boy. The boys' court sent him for mental examination to the psychopathic laboratory, where his mental age was found to be 10 $\frac{1}{5}$ years and he was diagnosed as a high-grade moron plus dementia praecox hebephrenia.

Of the offense included in the study Anton said: "This time it was for shooting a boy I couldn't help it. It was just an accident. The cops said it was my fault, and they beat up on me for an hour or two down at the (detective) bureau. The judge lectured to me and let me go on six months of probation, for he found out that I did not shoot him on purpose." The court records show that the charge was assault with a deadly weapon and that after a month the boy was placed on probation for six months. Before this offense Anton had been in the juvenile court on a charge of burglary. He had run

away from home and with two other boys had annoyed a young girl and burglarized a shoe-shining parlor. He was sent to the Chicago and Cook County School in November, 1923, but stayed there only three weeks. This was the year his father died. His conduct at the school is said to have been poor, but he was paroled and finally discharged when over 17, with a poor conduct record. Again, after the offense that was heard in the boys' court, Anton was in the juvenile court on a charge of stealing bicycle parts, for which he was returned to the Chicago and Cook County School for violation of parole. The conflict of jurisdiction between the juvenile court and the boys' court was possibly due to Anton's varying statements in regard to his age. On the boys' court record he appears as having been born April 1, 1907, but during the interview in connection with this study he said that he was really born in 1906 but had given the other date in order to be heard in the court he wanted. Since these experiences he has been in court twice. In February, 1925, he was held for the grand jury by a branch court, but in March no "true bill" was found. In April he was again charged with burglary and this time was sentenced by the criminal court to four months in the House of Correction. Anton's description of his court experience does not tally exactly with the court record, although he describes three arrests. He said

"The first time was for running away from home. I did not like to stay with my mother, so I ran away and the cops pinched me." He then described the shooting affair. "The last time was on the Fourth of July, and we was all in the park and drunk and I don't know what I done, but they sent me away for four months." When questioned further about this difficulty he would not say that he knew anything more about it and finally refused to talk at all. He gave the impression that he may have been even more deeply implicated than was brought out during the trial. Anton was never in jail and says he never had to put up security. Each time he was arrested, however, he stayed in the police station overnight. He said: "The stations are not so bad when you consider what they are for."

Probation does not seem to have made any impression upon him. He showed no interest in it; probably his mental capacity is not sufficient to enable him to benefit by this sort of treatment. Little opportunity was given him, however, to profit by it. He made no reports to the officer, according to the record in the probation office. The probation officer reports that he called once and spoke to the mother; that he called the next month and found no one at home. Another visit was not made for two months. On this occasion the

officer reported that the landlady said they had moved away. No record is found of any effort on his part to trace the family. Even the first visit of the probation officer to the home can have been of little use, as he reported. "The mother speaks very little English, only speaks Italian." As the mother was born in this country, and is of Polish extraction, it is probable that the right family was never once seen by the officer. At the expiration of the 6-month term Anton was discharged from probation, and results were recorded as "doubtful."

Anton was in the House of Correction from July 6 to October 31, 1926. The only expression in regard to this experience which he would make was: "Geel that was an awful place; I never want any more of it."

Anton's home conditions could hardly have been worse. Since 1914, when he was 7 years old, the family has been known to social agencies as very undesirable, and ever since that time (12 years ago) the children have been under supervision by the juvenile court, by reason of bad home conditions. Six agencies have registered the family at the social-service exchange. The mother and father were both known to drink. The father several times reported to the court that his wife drank too much to give the children proper care. After the father's death in 1923 reports were received both of the mother's drinking and of her receiving men visitors at night. The mother also worked away from home at least during the last 12 years. After her husband's death she worked for a time on a truck farm. To reach this work she was forced to leave home at 4 o'clock in the morning and did not return until 7 o'clock at night. The children were left alone at home. In speaking of his childhood Anton said that his mother was always too busy to be interested in him, that he had never been welcome in her home, and that some of his relatives had told him that his mother had never wanted children. He said that his mother had cared little for him. The mother at the present time says that the stepfather to whom she was married six months ago does not want the children in their home. She also told the agent who interviewed her for this study that she did not like Anton. She had heard from a brother of hers that Anton was in the Bridewell. She herself had had no word from him for so many months that she had not known of his sentence. The stepfather wanted to visit Anton when he heard that he was in the Bridewell and was trying to persuade the mother to go with him. The stepfather drinks, but there is no indication from any source other than the mother that he is not willing to have the children in his home.

During the 12 years that the juvenile-court officer has visited the

family (once every month except for 16 months when they were lost to the court) the places in which the family has lived have been very disagreeable. In one house one of the girls was bitten badly by a rat. The house in which the family now lives is in a poor business and residential district, comprised of two- and three-story brick and frame apartment buildings, with many rear houses. The mother appeared to be delighted with her new quarters and mentioned as one of the advantages the fact that there were no rats. The street is dirty, and the flat was dirty and untidy. The family have moved twice since Anton's offense.

Anton has not lived in his mother's home lately. After coming out of the House of Correction, at the end of October, he went to his sister's home. Her four-room apartment, which rents for \$18 a month, is in a small brick building on a business street, near an industrial center. The community is considerably better than that in which his mother lives. The apartment is clean but dark. The furniture is simple but adequate. The apartment is crowded, and the atmosphere is stuffy and close. There was no evidence of home recreation of any kind. The family consists of the sister and her husband and their three children, of Anton and his 14-year-old sister. The brother-in-law is a construction worker making \$35 a week. The sister seems to be sympathetic with Anton, and the brother-in-law was on friendly terms with him. Although the relationships in this home are much better than in the mother's home, his sister and brother-in-law are probably too indulgent and do not give him the supervision that he needs.

The family at home attend church regularly. The children have all lived irregularly, being sometimes at home, sometimes with relatives, sometimes in other homes, and sometimes in institutions. During a long period in which social agencies have been in close touch with the family no permanent plan has been worked out for any of them. Only the oldest girl seems to have made a satisfactory adjustment. She was committed to a school for dependent girls in 1915 at the same time that Anton was committed to a training school for boys. They were both kept on probation until 1919. Apparently the girl's marriage has been successful although her husband's wages are rather inadequate for the family. In the same year that the two oldest children were placed in training schools as dependents the next two children (both girls) were placed with the grandmother, the father paying \$2 a week for their care. They also were released from supervision in 1919. They have lived with various relatives and in other families, and one of them was in an institution. They fre-

quently ran away to their mother or sister. Finally, the second girl was placed with her sister and has remained there. In 1924 the two children still younger were placed on probation to live with the oldest sister, then married. They were later sent to the industrial school and ran away from there. They were subsequently placed in other homes, and during the last year they have been placed in the home of a woman who wished to adopt them. The mother, however, will not consent to adoption, although she is perfectly willing for the children to stay away from home. The children still return to their mother from time to time. Police have been sent to the mother's home for them, and on one occasion they hid under the bed while their mother said they were not at home. One sister was scalded to death in 1923. The only delinquencies except Anton's charged against the family are against the parents. The mother in 1915 was picked up on the street drunk, fined \$40 and costs, and sent to the House of the Good Shepherd for three months.

At the present time the stepfather is employed in the smoke room of the stockyards and earns \$35 a week. The oldest unmarried sister lives with relatives and works in an electric shop. As the next sister is with the married sister and the two younger girls are usually in another family home, no children are with the mother except the child of Anton's stepfather, a boy of 8. The younger children are in the first, second, and third grades at 7, 8, and 10 years of age, respectively.

Anton entered a parochial school at 7 years of age and remained until 12, if he is the age he now claims to be. According to the date of birth given the boys' court, he was only 11 when he stopped school. The mother's story is that he had stopped school at 14 and had been at work for some time before she and the boy's father were aware of it. Undoubtedly she has had enough contact with school authorities and the law to realize that his work was illegal. Probably this is the reason that she disclaims any knowledge of it; for Anton says that he "had to work to help father" and when asked about his mother's statement said that his parents did know when he went to work. He says he had completed four grades and had repeated one. His mother says that he had completed only three grades. Anton said, "School is a lot of bunk to me, I never liked it. I never had clothes like others, and somehow I never learned fast, and what I did learn never done me any good."

Anton said that he first worked on a truck farm with his mother. At the time of the offense studied he was a driver making deliveries of daily papers for \$18 to \$20 a week. He does not know how many

different jobs he has had and says he "just changed when he didn't like what he was doing." Apparently he cannot keep a position long. He often gets into discussions and arguments and fights with his fellow workers and with his bosses. At the time of his offense he was paying \$10 a week for his room and board and pays the same amount to his sister at present.

Anton's mother said that he was a "server" at church when a small boy and used to march in the processions and attend church regularly. He was a truant from school and was always unmanageable. She says his present companions are undesirable.

Of his companionships and recreation Anton said, "I don't go but with a few boys. We go to shows (movies), and go riding and play ball. In the summer we go to baseball games. Then we hang out on the streets or in stores sometimes." He admitted that he drinks moonshine "fairly often." He does not have much time to spend with girls but frankly states that he is a constant caller on immoral women. In regard to his conduct difficulties he said, "I have been getting into trouble ever since I can remember, and I guess I always will be doing it, for somehow I get a chance and I can't turn it down. My mother may have helped me along. People shouldn't say anything about parents, and especially dead ones, but my father and mother just didn't pay me no attention when I was growing up. I raised myself and made an awful mess of it."

Anton seems to have no inherently bad qualities but to have little will power and to act as others direct or lead. He has no great amount of energy and no initiative. Let alone, he would do little harm. In a good environment he might get along fairly well. Strict supervision and good home influence might have saved this boy from his present predicament. Although he impressed the probation officer, the juvenile court officer, and the bureau agent, as of subnormal mentality, no effort was made by the agencies so closely in touch with him from the time he was 7 years old until he was 17 to have him examined mentally. This failure is difficult to explain in view of his retardation in school. Apparently no effort was made to adjust the school curriculum to his particular abilities. According to his mother, the school-teachers did not report Anton's absence to her after he finally stopped school "because they didn't care." For this weak but harmless boy neither his home nor his school "cared." A representative of the juvenile court attempted to supply the care which was needed, and the efforts of this one agency were not successful. Later, when Anton came to the attention of the boys' court, another opportunity provided by society, probationary care, also failed to provide

the supervision that he needed. Commitment to a correctional institution at least gave him discipline but for a very short time only. No provision was made for supervision of this boy or boys like him after they left the institution. To sum up, favorable conditions of living, including rather strict supervision, might have been successful with this boy in spite of the unfavorable mental diagnosis and his early environment. These have not been provided.

Case Number 38 (Burke, 1930). Steve Lozinsky. Of medium height and weight, very neat, conservatively and well dressed; Steve impresses one as a clean-cut, intelligent young man with many good qualities.

Steve describes his court experience and offense as follows:

"We four boys went to a dance hall and found a car unlocked. We did not know the owner, but we wanted a ride, so we got in. I took the wheel, and we drove off. We stopped to get some gas, and a policeman became suspicious of us, took us up, called up police headquarters, and found we were in a stolen car. They took us down town, and I called up home. Father came and bailed me out for \$2500. The police station was not clean. The detective bureau was a regular dump. The police were lots harder than there was any need for them to be. We went to court and got our sentences. I was scared nearly to death. I was mighty glad to get six months' probation, and a chance to go straight. I had two probation officers, a man for a while, then a woman. She was real good. She done me lots of good. Just to go down once a month and go to all that trouble and explain all about what you were doing was enough to make any boy who has an average mind stop and think before he goes on and gets into more trouble. Probation did me more good than all the lecturing I have had given me all my life."

As to the effect of the court experience as a whole, Steve said, "It was the best thing that ever happened to me. I wish it had happened a little sooner. The court did a lot better by giving me probation than if I had been fined and my father had paid it off, or if they had not given me a chance and had sent me to the House of Correction."

The mother's opinion of the services of the probation officer did not agree with Steve's. She said, "The probation officer was a very nice lady. She came quite often and took an interest in Steve. She would sit for a long time and talk real nice to him, but it didn't do any good. Steve paid no attention to her. His father told him all those things, and he is a much better lecturer than that lady was. When

she would leave, Steve would die laughing and say, 'That is the bunk, she is paid to do all that talking.' Mrs. Lozinsky's description of Steve's offense varied somewhat from the boy's statement. She said that one night after he came in very late his father gave him an unusually severe lecture, and the next day Steve left home. The family did not hear from him until the police telephoned that Steve was locked up. He had been caught in another state driving an automobile which had been stolen. Four other boys were with him, and they were all on their way to Hollywood.

The Lozinsky home is on the first floor of a rather new 2-family brick apartment building owned by the family. It is located in a desirable residential neighborhood of business people. The 6-room apartment is comfortably furnished and well kept. The living room is rather attractive, with pots of flowers in the bay windows, a piano, and some books. The house has only three bedrooms, which crowds the family of 11 members considerably.

Mr. Lozinsky is a business man making about \$125 a week. Additional income includes \$25 a week which Steve earns and \$20 a week earned by the older sister, who is at home. The two children who are away from home support themselves. Six children are in school in grades ranging from the first to the eighth. The little boy of 4 is at home with the mother.

Mrs. Lozinsky is neat and young looking for her age. She is a high-school graduate. Mr. and Mrs. Lozinsky are very exacting parents. They make rules to which everyone in the household must conform or leave the home. Mrs. Lozinsky admits that she is strict with her children, and also that they all deceive her, and that she does not trust any of them. According to his wife, Mr. Lozinsky has a very hot temper and flares up suddenly, but he has no bad habits and provides well for the family. He is courteous and presents a good appearance, but gives the impression of being determined and self-satisfied. His idea of discipline in the family is "lecturing," but Mrs. Lozinsky believes in an occasional thrashing. The relations between Mr. and Mrs. Lozinsky sometimes become strained. After their last quarrel they did not speak to each other for three months. Mrs. Lozinsky says, "Worse than having children who run away is to have a husband who will not speak to you." She ascribes many of the difficulties between parents and children to what she calls "false pride." Members of the family have close connections with the church in the neighborhood, and are interested in all its affairs. The girls belong to church clubs and attend their dances and parties frequently.

Steve describes his father and mother as extremely religious, auto-

cratic, and out of sympathy with modern American life. They think their children should work all the time and need no recreation. "At home my folks have always beat me to make me obey. I guess I have been stubborn, but what gets me is that other boys and girls don't get the same kind of treatment that we do."

The oldest boy, Charles, chafed under the family discipline and finally ran away, for some time they did not know where he was, but later learned he was in the Navy. Charles returned home to live but again was unwilling to keep the hours his mother demanded, so she told him to pack his things and go to live his own life as he could not fit into the routine of the family. She felt that he was having a bad influence on Steve, encouraging him to stay out late. Charles left and is boarding with some friends. He comes home once in a while, but Mrs. Lozinsky says she does not want him to do this any more and she has decided "to cut him" the next time he comes to see the family. She feels that he has already succeeded in influencing Margaret to leave home. Margaret was so fond of reading that she did not scrub the kitchen floor twice a week as she was told, and she failed to clean the house as often as it should have been cleaned. She read so much that she neglected some of her studies and got very low grades in them. Mrs. Lozinsky, therefore, told her that she must go to work, that they would waste no more money sending her to school. Margaret, being only 15, could get no work except that of a maid in a private family. Mrs. Lozinsky felt that Margaret should give her her wages. The girl did this for a while but soon began to resent it. She returned home to live, but after her experience away from home was not willing to conform to the rules of the house. Mrs. Lozinsky admits that she beat her severely. She said in connection with this that she had beat all her children severely because she believes in "giving it to them good and plenty." After this Margaret left home, and Mrs. Lozinsky does not want her back. She and Charles board at the same place.

While Margaret was working in a private family her mother felt that she did not come home often enough and asked a private children's agency to see Margaret. The worker from that agency found the mother emotional and almost hysterical. The worker was impressed by the fact that the mother demanded and received implicit respect from all the children. She found the family most interesting and unusual. She also felt an undercurrent of unrest and dissatisfaction in the home, the source of which she did not discover, although she found Margaret a very nice girl with no delinquent tendencies, who had merely become negligent in her home visits and who readily

agreed that she should and would visit her mother oftener. Thereupon the contact of the agency with the family ceased.

Fred, 13 years old and in the eighth grade, has developed a different means of escape. His mother says he is a good boy in every way at home and at school, but he loves to wander. He runs away from home for days at a time. He then comes back, takes a severe thrashing, and soon runs off again. He told the children that the pain from the "licking" lasted only about half an hour, and that in exchange for it he had three whole days of freedom and pleasure. Upon one of his recent returns from such a trip, Mrs. Lozinsky gave him what she admits was a terrible beating with a strap from the sewing-machine wheel. He cried out in such pain that the neighbors upstairs interfered. She refused to stop, and the neighbors called the police. She explained to the officers why she was whipping the child, and they told her to whip him whenever he ran away. Mrs. Lozinsky feels very triumphant over this.

The oldest daughter, Helen, is 18 and according to her mother "behaves fairly well, but has crazy fits about leaving home." Mrs. Lozinsky usually gets these notions out of her head by means of a sound thrashing with a strap. Helen is in high school until 3 in the afternoon. She then rides for almost an hour on the street car to a telephone exchange where she acts as an operator until 10 at night. She has only one Sunday a month free from her telephone duties. Mrs. Lozinsky said that the girl did not need any time for recreation.

Steve, the boy included in this study, entered school when 6 years old. He had always been a bright pupil, had made good grades, and was ambitious to finish his high school course when his school career came to a sudden end. Steve says that his father and his teacher "framed on him," and he got mad and gave up school. His mother's story is more detailed. Steve stayed out late one night having a date with his "steady girl," to whom Mrs. Lozinsky objected. His father sat up for him. Steve saw him through the window and was afraid to come in, so he went around the back of the house and slipped in without his father's knowledge. His father fell asleep, and when he awoke it was 3 in the morning. He accused Steve of coming in at that hour, and a heated argument followed. The next day the father went to the school—a church high school—and asked the teacher's cooperation in giving Steve a severe lesson. Therefore, when Steve arrived, the instructor lectured him very sternly for staying out so late the night before and said he could not have a boy like him in his school, he would have to take his books and go home. The "lesson" did not work as expected. Steve took the professor at his word. He

also took his books and left, refusing to return, although he lacked only a few months of graduating. The experience embittered Steve, and the father was too proud to give in. This occurred when Steve was 17, a few months before his court experience. He now attends school two nights each week, studying automobile mechanics. He expects to keep on studying subjects that will be of practical value.

When Steve first left school he became a driver for a department store, earning \$14 a week. He regarded that as only a temporary occupation and changed when he had an opportunity to get into business. Mrs. Lozinsky says that she has been dissatisfied several times with Steve's positions and one she persuaded him to give up. After this he was out of work for a long time because he could not find a job that would please both him and his mother. For two and one-half years he has remained with the same company as a clerk. He is now earning \$25 a week. Steve and his brother and sister who have left home have followed their father's occupation. Steve has a good attitude toward work and toward his employers, and seems to be successful.

Mrs. Lozinsky says that Steve never got into any serious trouble except the one time he was in court. He kept very late hours, however, and both his mother and his father were continually disciplining him for this. She disapproved of a boy with whom Steve formerly went, one of the boys who was involved in stealing the automobile. She thinks he has given up the girl to whom she objected. His mother does not know who Steve's friends are now, for he no longer confides in her. He goes out quite frequently, but she does not know where. He belongs to a national fraternal and charitable order and to another club. He has been interested in the piano and took lessons for a while, practicing diligently, but finally lost interest and stopped his lessons.

Steve told how he worked out a certain program enabling him to have a social life and still live at home. He goes to school two nights a week and tells his parents that he goes four nights. He goes out with boy friends the other two nights. He says, "I never belonged to a regular gang. Most boys who belong to those gangs are a tough bunch. I never drank, smoked, or anything like that, so I would not get on in a gang very well. I go with two nice boys who don't drink. We go to movies, and on Saturday nights I take my girl out. I also go to see her on Sunday evenings."

Steve says that up to the time of his court appearance he had never had any trouble except at home. He also says that arguments at home have been his only trouble since his court experience. He said

that before he "got caught" he had taken out several cars and taken joy rides in them, but always brought them back. He has found out that to get away from home and into trouble just to spite his family or to be smart is only hurting himself. He never expects to get into court again.

To have been able to remain in his home under most trying circumstances and to have come through with the ability to keep himself straight are evidences that Steve is made of good stuff. He seems to have inherited his father's ability, and in addition is a very likeable person. His court experience seems to have made him realize the futility of certain means of expressing his revolt against home conditions. Probation for such a boy was apparently the correct procedure. No behavior problem exists at present. The boy's vocational problem is solved. His social situation is satisfactory, and if, as he grows older, he is able to work out his career without interference from home influences, his life may be expected to be successful.

These few cases have been selected because they introduce some of the more frequent factors that are basic to delinquency. In even these cases, however, it is evident that no one thing is ever the cause of delinquent behavior. The official charge against the delinquent is of little value in psychological diagnosis. We must have as exhaustive a history of the child as it is possible to get; and intelligent interpretation of the information included in such a history must account for the delinquency. There is always a reason; and until that reason, or those reasons, are discovered, it is impossible to deal adequately with the child.

TREATMENT

From a strictly psychological point of view the treatment of the juvenile delinquent differs in no essential respect from the treatment of any child who exhibits behavior difficulties. Inasmuch as the delinquent's behavior problem is of such a nature that it transgresses legal restrictions, the psychologist is not entirely free in dealing with the child. He usually sees the child only after he has been brought into court, or has been committed to an institution or placed on probation. Therefore, we must consider juvenile courts, institutions, and probation as special factors in the treatment of the juvenile delinquent.

Special courts for dealing with children's cases are of recent origin, although Platonov (1925) reports that Catherine II instituted "Courts

of Conscience" in Russia during 1775 to hear cases of juvenile delinquents, insane, and unintentional offenders, and to settle disputes by arbitration instead of by formal legal procedure. Modern juvenile courts were instituted in South Australia by ministerial order in 1890 and later legalized by an Act in 1895. Earlier than this several American states had provided for the separate hearing of children's cases. The first laws establishing juvenile courts were passed in 1899 in Illinois and Colorado; they established courts in Chicago and Denver. Since that time practically all states have made some arrangement for the special handling of juvenile cases.

In usual criminal procedure, the offender is accused of the commission of a specific crime. The jury and judge, following certain conventional legalistic formulae, decide whether the evidence supports the accusation. If it does, then the individual is punished according to law. In contrast to this, the underlying theory of the juvenile court is that the child is ultimately a ward of the state, and when he has been brought before the court its task is to discover the conditions responsible for his appearance. In chancery proceedings of this sort the judge's action can be influenced by factors in the child's history which could not be admitted as evidence in a criminal proceeding. In addition to delinquencies of children younger than statutory limits, the juvenile courts usually have jurisdiction in cases of child dependency or neglect.

The following quotation from Flexner, Oppenheimer, and Lenroot (1933) succinctly sums up the basic conceptions distinguishing juvenile from other courts: "Children are to be dealt with separately from adults. Their cases are to be heard at a different time and preferably in a different place. The children are to be detained in separate buildings. If institutional guidance is necessary, they are to be committed to institutions for children. Through its probation officers the court can keep in constant touch with the children who have appeared before it. Taking children from their parents is, when possible, to be avoided, on the other hand, parental obligations are to be enforced. The procedure of the court must be as informal as possible. Its purpose is not to punish but to save. It is to deal with children not as criminals but as persons in whose guidance and welfare the State is peculiarly interested. Save in the cases of adults, its jurisdiction is equitable, not criminal, in nature."

As shown by Lenroot and Lundberg (1925), the details of procedure

in different courts vary a good deal, but in general nature the procedure is essentially similar. Children may be arrested by the police, or complaints may be made to the court officials by parents, school authorities, or other interested persons. Between the complaint and the hearing a period of a day or two to a week or more intervenes. During this time the child may be kept at home, or in official custody in a special detention home or boarding home, or, unfortunately in some communities, in the jail. The hearing itself is usually preceded by an investigation of the child's history, which may consist of little more than a statement of superficial home conditions and the opinions of persons who know the child, or, on the other hand, it may include a detailed study of the physical and mental condition of the child, his developmental history, and his home and neighborhood. The history may be secured entirely by the probation officer, or it may be contributed to by such specialists as the physician, psychologist, psychiatrist, or social worker.

With all the available material before him, the judge conducts a hearing. Present are usually the child, his parents, the person making the complaint, and perhaps the probation officer or others who have contributed to the history of the case. Conspicuous by their absence are lawyers, court attendants, jury, and a public audience. The judge, alone or in consultation with expert advisers, makes a decision—no what the punishment shall be, but how the child shall be treated.

In general, there are three major courses open to the judge. (1) He may merely release the child, with or without warning, to the custody of the parents. (2) He may place the child on probation for a definite or indefinite period. (3) He may commit the child to a juvenile reform or correctional school.

Complete release of the child to the custody of the parents is probably wise only under certain extremely suitable circumstances. If the offense is the child's first, if there are no reports of other types of behavior problem, and if the evidence supports the belief that the parents are able to deal with the child, full release is probably the best procedure. Regardless of how minor the act is upon which the present complaint is based, if the child has a previous history of delinquency or behavior problems he should not be given a full release. Such a history is itself evidence that the parents are not able to deal satisfactorily with the child. Therefore, the state, through the

court, must maintain a contact with the child to the end that he shall not develop further unsatisfactory behavior tendencies.

Probation.—The court's contact with the juvenile offender is usually maintained through a system of probation. The child may be left in his own home or placed in a foster home, but in either case his activities are more or less carefully supervised by a probation officer. With a sufficient number of adequately trained officers, the probation system has much to commend it. Unfortunately, in too many communities the probation officer is a purely political appointee, and often the place is given to an entirely unsuitable person. This political aspect, the lack of money available for salaries, the absence of community enlightenment, and too large case loads often make probation an unsatisfactory method of dealing with delinquents. When probation is satisfactory, if not ideal, the officer can do a great deal in helping the delinquent. He visits and tries to gain some insight into the home; he offers counsel to the child, he should know and make use of all facilities, such as medical or mental hygiene clinics, recreational programs, boys' and girls' clubs, and the like, that exist in his community; he is not a policeman wielding a big stick, but a friend to whom the delinquent should feel free to go in times of difficulty. Active therapy by probation officers is usually in the nature of social treatment such as advising changes in home, giving occupational and educational assistance, and the like. The probationer is required to report at regular intervals to the officer. Because of the very heavy case loads usually borne by most probation officers, the reporting of the delinquent is often a rather perfunctory, formal affair. If the case loads were small, properly trained officers could be of great value in carrying out psychological therapy.

Institutions.—Separate institutions for juvenile delinquents were unknown before 1824.¹ Before that date, children were tried, convicted and committed to the jails and prisons just as adults were. In 1824 the New York House of Refuge was opened through the efforts of the Society of Friends in New York City. Boston and Philadelphia established similar institutions in 1826, and the first State Reform School for Boys was started in 1847 at Westboro, Massachusetts. Massachusetts also had the first school for girls in 1854. Since this time, public and private institutions for delinquent boys and girls have been created in every state. From the beginning until very recently—and in the more backward schools even today—the basic idea of such

institutions has been merely to separate children from adults in carrying out the provisions of the penal code.

Since the development of juvenile courts and the changing attitude toward juvenile offenders, the purposes and values of institutions for children have been viewed in a different light. The following quotation from Bowler and Bloodgood (1935) is an excellent summary of the objectives of juvenile institutions as seen by progressive workers in the field

"An institution for delinquent boys exists for the purpose of re-educating the individual child committed to its care by the court. Reeducation here means something much broader and deeper than any amount of improvement or increase in the academic instruction or vocational training which the individual child is to receive. It means reshaping his behavior patterns. It means giving thoughtful attention to his personality difficulties to the end that he may achieve healthy emotional development as well as growth in mental equipment or manual skill. It means giving the child an opportunity to meet and experience life under controlled conditions, in order that he may be more readily redirected and guided into behavior channels that will gratify him and be acceptable to others. It also implies making quite sure before he is released that he has acquired sufficient reeducation, or redirection, to enable him to make those personal and social adjustments that will be necessary if he is to lead a fuller, happier, more productive life and if he is to avoid those conflicts which had previously brought him, and would again bring him, into conflict with society and its laws. To imply that all these things can be done for all boys would be to sidestep reality flagrantly. Realistically the institutions' task is to discover each boy's assets and liabilities in relation to the social scheme, and then to go as far as possible in each case toward building up a personality capable of satisfactory self-direction."

It would take us too far afield to attempt a description of the work of modern institutions. Several reports which are readily available give excellent accounts of present practices. Fenton (1935) has described the work at the Whittier State School; in this institution an effort is made to adjust the child's training program to fit his earlier experiences, his interests, and his abilities. Furthermore, before the boy is finally released he is placed in the community for a trial period during which he is supervised and helped by workers from the school.

Bowler and Bloodgood (1935) have described the programs, especially from the point of view of their treatment value, of five state institutions for delinquent boys, which illustrate current practices in a small selected group of the better institutions. Reeves (1929) has published a somewhat more elaborate study and analysis of the practices of 57 training schools for delinquent girls.

Probation and institutionalization in themselves do not constitute treatment; they are merely means of keeping an official eye on the delinquent child. As the Gluecks (1934) point out, the judge has a primary duty to society in protecting it from further acts of this offender. In contrast, the professional specialist is concerned primarily with the child as an individual. There is no real reason why these two points of view should be in conflict. To treat and cure the child mean ultimate gain to society. If there is reason to believe that the child's behavior will be inimical to the social good, there is no reason why probationary or institutional supervision should not be maintained temporarily. But during such periods of supervision there should be attempts at active therapy. Institutionalization as punishment, or as an end in itself, probably defeats its own purpose. A similar statement can be made regarding probation when it is used merely as a means of watching the boy or girl while hoping he will reform, or waiting for his behavior to become so bad that he is sent to an institution.

Active measures aimed at the correction of the child's behavior may deal with the parents and family, with the community and its agencies, and with the child. Upon which of these three emphasis is to be placed can be determined only by careful evaluation of all the elements involved in the history of the case. Detailed schemes of treatment cannot be set forth because they would probably not be suitable for even one actual case. Furthermore, such schemes can be too easily considered as magic formulae which insure the improvement of behavior. We can, however, summarize in a general way certain procedures that have been shown to be of value. There is nothing new here—rather, we reiterate some things discussed in an earlier chapter.

The importance of the family can hardly be over-estimated, and every effort should be made to improve the home conditions. In cases where the parents are vicious or criminal, necessary legal action should be taken against them, and the child removed from the undesirable influences. Attempts should be made to improve the ma-

terial condition of the home. When there are intra-family emotional tensions and conflicts, effort should be directed toward reducing them.

If the child lives in an impoverished, degraded, vicious neighborhood, he should probably be removed. Among the agencies of the community, the school is of great importance. Better school adjustment through change in grade placement, modification of curriculum, and improvement of teachers' attitudes should be attempted. Commercial amusements, such as pool rooms, saloons and movies, and unsupervised congregating places may have extremely bad effects upon the child, and should be controlled to the greatest legal extent.

Before dealing with the child himself, it must be decided whether he is to be allowed to remain with his family and in his own neighborhood. Institutions or foster homes for delinquents should be used only as a means of taking the child from undesirable conditions so that direct therapeutic measures may be more effective.

How shall each child be dealt with? The answer to this question must be decided on the basis of etiologic factors derived from his history. If this history shows that the child comes from an environment that definitely indicates inadequate or unsatisfactory training, that the child is below average in intelligence and that he is not adjusted academically, that the viciousness or criminality of the home or neighborhood has afforded excellent models for his behavior, then a program of rehabilitation is indicated. Probably the child should be removed from his environment, either to a foster home or to an institution. His school program must be adjusted to his ability, and perhaps greater emphasis placed upon pre-vocational or vocational courses. The retraining should also include efforts at building up habits of social responsibility.

For those children whose history indicates that emotional conflicts or personality disorders are basic to the delinquency, a more active psychotherapy is necessary. While such therapeutic measures must deal directly with the child, it is necessary to remove or correct environmental reasons for them. Therefore the family must be dealt with in an attempt to reduce conflicts and stresses. It may be necessary in some cases to remove the child from the home, at least temporarily. Such therapy may be carried on in an institution, as has been described by Aichhorn (1935).

The first step in psychotherapy of the child is to hear his or her own story. Regardless of how much other history has been secured,

or how insistent parents or others may be as to the child's guilt, or how clear the whole problem appears to be from the history, if any attempt is to be made in trying to help the child he must be allowed to tell his own story in his own way. The person undertaking to deal with the child with this sort of therapy must take no sides, must show no bias. There must be no element of "good" or "bad" deeds. The therapist is not a judge, but a friend. This must be made clear to the child, for he usually has had much experience in being judged for his misbehavior or condemned and scolded. Any idea of punishment must be kept entirely out of the picture. With all ethical or moral questions out of the way, the therapy is the same as we have discussed earlier for dealing with behavior problems in general.

The Function of the Psychological Clinic in Treatment—Since the establishment of Dr. Healy's Psychopathic Laboratory in connection with the Cook County Juvenile Court in 1909, a number of courts have created their own psychological departments or made use of psychological clinics available in the community. In a large measure, the work of these clinics has been diagnostic and limited to the formulation of recommendations for handling based upon the findings. Actual psychotherapy with the delinquent has at times been carried out by the clinics, although this has probably not been one of the major functions. The value of psychological attention for the delinquent would lie primarily in the improvement of behavior following treatment as recommended by the clinic. That this value can be, or is, realized has not yet been demonstrated. The Gluecks (1934) found that 88 per cent of 923 delinquent boys were recidivists within a five-year period following treatment as recommended by the Judge Baker Foundation Clinic. Such a high percentage of non-adjustment taken at its face value would be a strong argument against the value of the clinic.

In investigating their cases in detail, they found that the clinic recommendations could not be carried out for reasons such as the following:

- 1 Legal restrictions made it impossible, e.g., in the case of recommendation for commitment to a school for the feeble-minded. This would not be the case in some states.
- 2 Parents could not or would not cooperate in carrying out recommendations. This of course would have to be met by a program that did not require the cooperation of the parents.

3 Lack of proper social agencies or community facilities, and refusal or inability of established agencies to deal with problem children

4. Non-cooperation of the delinquent This may have been a refusal to attempt any change in behavior, or, in some cases, the delinquent may have escaped or run away before a therapeutic program could be carried out

5. The diversity of authority to deal with the delinquent, e g, probation officers, parole board, institution personnel, and so on, sometimes resulted in a lack of an integrated attack on the problem

6 The limitation of skill and understanding of some probation officers, social workers, or teachers, which presented difficulties in carrying out some recommendations.

7 Trial-and-error, experimental, and idealistic recommendations frequently were neglected because of many practical difficulties in carrying them out This item emphasizes the point that the clinic must make its recommendations with full realization of the possibilities of having them followed

When one considers the several reasons for non-compliance with recommendations and also that in some cases the recommendations were presumably carried out, but not under close supervision of the clinic, it is evident that the high percentage of non-adjustment cannot be taken as adverse evidence It does, however, definitely show, as the Gluecks themselves point out, that there must be closer co-operation among the court, the clinic, and various community agencies in dealing with the delinquents There is also the possibility that in many instances recommendations may be made which in general would be good, but are not of great importance in a specific case

The value of institutionalization of delinquents may also be questioned For example, Healy and Bronner found that of 311 boys sent to juvenile correction schools, 70 per cent failed to adjust after leaving the institution, while of 109 boys not committed, only 34 per cent were failures. Fenton reports that of 180 boys who had been out of the institution for a period sufficiently long to give evidence as to their social adjustment, 110 had adjusted while 70 had not. The variation in these two sets of figures is probably to be accounted for by different programs of rehabilitation and by differences in method of placement

In comparing the adjusted and non-adjusted groups on the presence of some 200 various traits, Fenton found some differences of reliable

significance between them. For example, among the adjusted boys there was a greater incidence of harmonious homes, fewer broken homes, and more constructive interests. The Gluecks found that sound discipline by either father or mother, normal school placement, non-school misconduct, late age (15-17 years) at time of first arrest, and clinical study within a year after the onset of delinquency were the most important factors favoring satisfactory adjustment. These studies and certain other ones referred to in these monographs indicate that there are bases for predicting favorable outcome in the treatment of delinquency.

Chapter XI

SPEECH DEFECTS

IN CHAPTER VI we suggested that language abilities in reading, writing, and speaking should be considered as three aspects of a whole. Skills in all three develop concomitantly, with speech perhaps starting somewhat sooner than the others. Because of this initial advantage the development of reading and writing may be more affected by speech difficulties, than speech will be by reading or writing difficulties. Regardless of how we view the interrelations among these three aspects of language skills, difficulties of speech present specific problems in child adjustment that make them of special importance to the clinical psychologist.

Speech we shall take to mean the production of articulate sounds and patterns of such sounds as are conventionally accepted and understood. In this limited sense speech is a motor phenomenon and the disorders are due essentially to faulty use of the elaborate mechanism required. As with all other motor performances, adequate skill must be learned. The infant exhibits vocalization of a haphazard sort just as it exhibits uncoordinated movements of the arms and legs. The neo-natal vocalizations are usually of a vowel character. Most authors agree that modifications of a or of u form the earliest utterances. Further vocal play during the first two or three months introduces the consonantal sounds, with the labials m, p, and b usually appearing earliest. This early period of babbling or vocal exploration provides exercise of the speech apparatus, and during it probably most of the sounds required in the production of sound patterns or words are learned. Speech as a means of communication may be learned without satisfactory development of speech as sound production. Therefore, we shall not discuss the development of speech or language here, but refer the reader to the books of Shirley (1933) and McCarthy (1930), and particularly to McCarthy's (1933) excellent review of language development in the *Handbook of Child Psychology*.

Shirley (1933) reports the following as the usual sequence in the

development of language (1) vocal grunts of a reflex character, (2) vocal play introducing syllabic vocalization, (3) socialized vocalization, (4) expressive tone and inflection, (5) comprehensible words, (6) use of pronouns, (7) use of phrases and sentences. Such development will not occur if the child does not hear language used by people about him. Furthermore, the words and pronunciation of the people he does hear will be the ones he learns. We may think of the development of language and of speech as following the first four of the above steps. Beginning with the fifth, the two may or may not be the same. Words which the mother understands may be quite incomprehensible to most people because the child's articulation is so poor that his sound patterns deviate too widely from the conventional norms. If spoken communication is to be made a useful addition to the child's behavior equipment, then motor habits must be formed that will produce sounds sufficiently like those used by other people.

When one considers the complexity of the speech apparatus, he must wonder, not why so many children exhibit speech disorders, but why more children do not. As Travis (1933) points out, none of the many organs involved in sound production subserve that end alone, nor does their phylogenetic history suggest any such use. One may think of speech as a modified type of respiration. A stream of air from the lungs, controlled by the syneigic action of all of the muscles required for respiration, is forced through the larynx and over the tautened vocal cords. The vibration of these cords modifies the air stream into a series of waves whose frequency or pitch depends upon their tension and length. The sound waves then pass into the oral and nasal cavities where they are further modified by selection of certain tones by the head cavities (resonance), and by interruptions of the air stream by the tongue, teeth and lips. All of these parts, which anatomically are more or less unrelated, must work in perfect synchronization. Interference with the operation of any part will result in the production of poor speech sounds.

The speech problems met with in clinical practice may be conveniently divided into five types. A more technical and exhaustive classification will be found in Robbins and Stinchfield (1931). These five groups may be described thus:

1. *Delayed speech.* The child does not start to talk until much later than the average age.

2. Articulatory disorders. These include the production of improper sounds because of structural or training defects
3. Rhythmic disorders. This group is characterized by poor temporal coordination in the operation of the speech apparatus, giving rise to the condition called stuttering
4. Voice disorders. These include cases whose speech shows an abnormal phonation such as hoarseness, nasality, etc.
5. Symbolic disorders. In this type the difficulty is not in the formation of sounds or in their suitable patterning, but in an inability to place words in acceptable grammatical relationship. The various types of disorders in this group are called aphasias

As the methods of examination and treatment of these various types of disorders are quite different, we shall discuss each of them at some length; but before doing so we shall offer data on the prevalence of speech disorders among school children

In the report of the White House Conference (1931) on Special Education, the Committee on the Defective in Speech present probably the most extensive data on the incidence of speech defects. Forty-eight cities from the group with populations over 10,000 answered the Committee's questionnaire with sufficient completeness to permit the calculation of incidences. The percentage of children with speech defects in these cities ranged from 10 to 21.4. The median and mean of the percentages was 6.9; an average calculated from the totals was five. The wide variations in percentages reported are probably due to different standards of judging defects, active speech correction programs, and the like; but the average of five per cent does appear to be a conservative estimate. Estimates based on this figure would indicate that about 1,200,000 school children in the United States have defective speech. Louttit and Halls (1936) made a questionnaire survey of all schools in the State of Indiana. On the basis of usable returns, representing about 27 per cent of the total public school population of the state, there was a total incidence of 3.7 per cent. There was a slight difference between the incidences in rural and urban school systems, shown by percentages of 3.3 and 4.3, respectively.

The White House Committee also analyzed their data to show the relative incidences of various types of disorders, as shown in Table LXI. It is evident from this table that articulatory defects resulting

TABLE LXI —INCIDENCE OF TYPES OF SPEECH DEFECTS
(White House Conference, 1931)

| Type | Number of Cases | |
|-------------------------|-----------------|------------|
| | Reported | Per 10,000 |
| Sound substitution | 30,027 | 4,623 80 |
| Stuttering | 14,384 | 2,214 96 |
| Oral inactivity | 7,445 | 1,146 44 |
| Structural articulatory | 5,585 | 860 02 |
| Dialectal | 3,718 | 575 64 |
| Voice, functional | 1,498 | 230 67 |
| Voice, structural | 1,178 | 181 38 |
| Hard of hearing | 524 | 80 69 |
| Paralytic articulatory | 310 | 49 28 |
| Asphasias | 197 | 33 |
| Paralytic voice | 79 | 17 |

from poor habits (sound substitution, oral inactivity, dialectal) are by far the most prevalent type of disorder. The next most frequent type is stuttering, structural defects, voice disorders and the aphasias are relatively infrequent.

DELAYED SPEECH

In our clinic at the James Whitcomb Riley Hospital we have frequently had children four, five, or six years referred primarily as speech problems. Usually these children prove to be examples of the commonest cause of delayed speech, i.e., they are feeble-minded. Other causes of this condition are deafness, occasionally fright, and possibly lack of speech stimulation from the people with whom the child lives.

Wallin (1927) found that boys and girls of normal intelligence use simple words at an average age of one year, while the average for feeble-minded children was two years. Phrases and sentences were used by normal children at 1.7 years, and by feeble-minded children at three years. These figures agree with those given by Terman and Gesell, quoted earlier (see page 27). From these figures we can expect that at least 50 per cent of the feeble-minded will exhibit a delay of more than one year in starting to talk. Therefore, it is not surprising to find that the children who do not talk, or are just beginning to talk, at four or five years of age are frequently feeble-minded.

The demonstration of low mental ability in such young children who do not talk must usually depend upon non-language performance tests. Unsuccessful attempts to present even the simplest of these tests may be indicative of the second most frequent cause of delayed speech, i.e., deafness, or even serious hearing loss. The differential diagnosis between feeble-mindedness and inadequate behavior arising from deafness is difficult in young children. In any case, where there is a possibility of a hearing defect, a thorough examination should be made by a competent otologist.

Other causes of delayed speech occasionally occur, but they are uncommon. One four-year-old girl seen in our clinic had started to talk at about one year of age, and had talked for about six months. At this time she had been badly frightened when the family's home had burned. She did not speak after this, and at the age of four was still mute.

Treatment of delayed speech must depend upon etiology. The feeble-minded child of five who does not speak will probably do so within a year or so. There appears to be no advantage in special training until the mental age is at least three or four years. Speech training of the deaf child should be undertaken by specially trained teachers, consequently recommendation for admission to schools for the deaf should always be made.

ARTICULATORY DEFECTS

Articulatory defects are those caused by inability to make properly the muscular movements necessary to produce a given sound. Usually they involve the consonantal sounds, these being produced by faulty tongue and lip movements. However, it is probably true that faulty movement of one part of the speech apparatus is accompanied by faulty action of other parts. Travis (1931) in particular emphasizes that the production of any sound requires a "set" of the whole speech apparatus; thus the difference in the initial sound in "well" and "vell" is not only in lip position, but in the total speech pattern. This group of disorders includes those for which the following names, not always mutually exclusive, are employed: lispings, lallings, cluttering, speech clumsiness or oral inactivity, sound substitution, certain nasalities, infantile speech or "baby talk," foreign accents.

Articulatory disorders are more frequent than any other type. This has been shown in many surveys, of which the one reported above

(see Table LXI) is most extensive and at the same time typical. Of greater importance than the gross frequency is the change in incidence

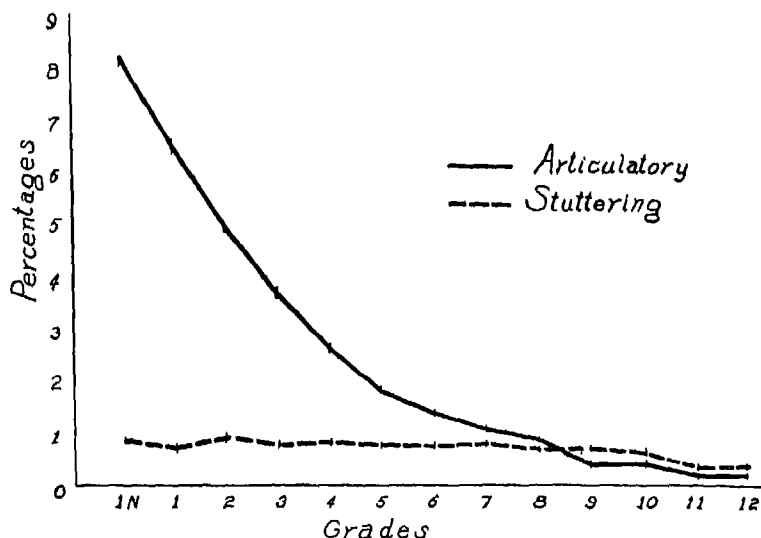


Figure 15—Incidence of Speech Defects by Grades

with increase in grade Louttit and Halls (1936) analyzed their data by grade, with the results shown in Table LXII and Figure 15. Wal-

TABLE LXII—INCIDENCE OF SPEECH DEFECTS BY TYPE AND SCHOOL GRADE

| | Louttit and Halls | | Wallin | |
|---------------|-------------------|------------|---------|------------|
| | Articulatory | Stuttering | Lispers | Stutterers |
| Kindergarten | | | | |
| New 1st Grade | | | | |
| 1 | 8.27 | 93 | 2.5 | 2 |
| 2 | 6.59 | 73 | 2.9 | 6 |
| 3 | 5.08 | 97 | 1.7 | 6 |
| 4 | 3.74 | 80 | 1.3 | 9 |
| 5 | 2.68 | 88 | 1.3 | 9 |
| 6 | 1.85 | 81 | 1.0 | 8 |
| 7 | 1.46 | 77 | 7 | 9 |
| 8 | 1.11 | 80 | 6 | 9 |
| 9 | 80 | 62 | 5 | 9 |
| 10 | 40 | 69 | 8 | 7 |
| 11 | 41 | 66 | 1.0 | 7 |
| 12 | 21 | 39 | .5 | 5 |
| | 23 | .41 | .7 | 4 |

lin (1926) has a similar analysis of types of defects by grade based on a survey of 89,057 children in the St. Louis public schools, which shows essentially the same tendencies. These data are also shown in Table LXII. It is evident that there is a decided decrease in the number of children with speech defects with increase in grade. The major portion of this drop is due to decreasing articulatory defects. In the Indiana survey articulatory defects drop from 8.25 per cent among new first graders to about 0.25 per cent in the twelfth grade, while stuttering remains fairly constant, around one per cent to the seventh grade, when it begins to fall off, and in the twelfth grade it amounts to about 0.5 per cent.

Classification of Sounds—All sounds used in speech are produced first by a vibration of the air column by the vocal cords, and then by resonance of the head and chest cavities and interruption by teeth, tongue and lips. Following Twitmyer and Nathanson (1932), the sounds may be classified as follows:

1. *Continuants*. Sounds produced by vibration in the larynx and without interruptions by tongue, teeth or lips. These include the vowel sounds, a, e, i, o, and u, and their many variations.
2. *Stops*. Sounds in which the vibrating air column is interrupted. These may be divided into groups according to the method of stopping.
 - a. *Linguo-dentals*. Tongue against back of upper teeth at gum line T-D-N. Decreasing tongue pressure in this order with N being most relaxed and the air passing out by way of both the oral and nasal passages.
 - b. *Bilabials*. Interruption by closing the lips. P-B-M. Decreasing compression in this order with M being nasalized analogous to N in Group a.
 - c. *Labio-dentals*. Lower lip and upper teeth in contact F-V. More laryngeal vibration and less compression in V.
 - d. *Inter- or post-dentals*. Interruption by closing teeth together or with tongue between. S-Z (post-dentals) are the former, and Th (inter-dental) the latter. Z has more laryngeal vibration than S, but with same sort of dental occlusion.
 - e. *Front palatals*. Essential similarity in the closing of the jaws. Sh-S-Ch. Sh, close jaws and exhale through teeth;

f - t

- J like Sh, but with laryngeal vibration; Ch like Sh, but with tongue against upper teeth at gum line
- f. Back palatals. Back part of tongue used in interrupting. K-G-NG. K and G made by contact of arched tongue with soft palate, with laryngeal vibration in G. NG has more relaxed position and the air passes out of oral and nasal passages
- g. Linguals. Sound formed by contracted position of tongue. L-R. L has tongue against upper teeth. The sound is not explosive as in T. The tip of the tongue may touch the edge of the teeth, the gum, or the anterior part of the hard palate, but there must be contact. R uses an upward movement of the tongue toward the hard palate, but no actual contact. Both sounds have pronounced laryngeal vibrations
- h. Aspirate. No interference with air stream. H. Tongue on floor of mouth, air forcibly expelled. Slightly roughened vowel sound.

This is not the only classification of speech sounds that may be made, but it is a useful one. The total number of sounds included here may be expanded by the vowel variations and modification of certain consonants. Travis (1931) uses a phonetic alphabet and in the key table to it includes fifty different sounds.

Examination.—For obvious reasons, information concerning the child's ability, educational achievement, home circumstances (especially language and speech patterns used), and physical condition is necessary before attempting corrective work. Methods of examination relating to all of these have been discussed in Chapters II and III in this book. Such a clinical examination program as there outlined should be followed in the case of articulatory disorders. In addition, it is necessary to test for the individual sounds. A simple alphabetical phonetical test has been published by Halls (1934), and is here reproduced by permission.

This list does not attempt to test all the sound variations that appear, for instance, in Travis' list. It is satisfactory, however, in discovering the type of defect present. The test is presented by having the child repeat the letter name or the consonant followed by a vowel sound, e.g., *bee, ell, we*, etc. Words with double consonant sounds and numer-

ALPHABETICAL PHONETICAL TEST

| | | | | | | |
|--------------------------------|---------|---------|---------|---------------------------|----------|----------|
| Name _____ | | | | Address _____ | | |
| Birth Date _____ | | | | Date of examination _____ | | |
| Age when started to talk _____ | | | | Name of examiner _____ | | |
| A _____ | H _____ | O _____ | V _____ | 1 _____ | 8 _____ | 15 _____ |
| B _____ | I _____ | P _____ | W _____ | 2 _____ | 9 _____ | 16 _____ |
| C _____ | J _____ | Q _____ | X _____ | 3 _____ | 10 _____ | 17 _____ |
| D _____ | K _____ | R _____ | Y _____ | 4 _____ | 11 _____ | 18 _____ |
| E _____ | L _____ | S _____ | Z _____ | 5 _____ | 12 _____ | 19 _____ |
| F _____ | M _____ | T _____ | | 6 _____ | 13 _____ | 20 _____ |
| G _____ | N _____ | U _____ | | 7 _____ | 14 _____ | |

Consonant Combinations

| | | | |
|----------------|----------------|---------------|------------------|
| th-the _____ | sn-snow _____ | cr-crow _____ | wh-why _____ |
| th-think _____ | sm-smile _____ | dr-dry _____ | spr-spray _____ |
| st-stay _____ | pl-play _____ | fl-fly _____ | str-string _____ |
| sk-sky _____ | pr-pray _____ | fr-fry _____ | shr-shrill _____ |
| sh-she _____ | bl-blow _____ | gr-gray _____ | spl-split _____ |
| sp-span _____ | br-bray _____ | gl-glow _____ | sq-squall _____ |
| sl-slow _____ | cl-clay _____ | tr-try _____ | |

| | | | |
|----------------------------|-------------|---------|-----------|
| Training recommended _____ | (underline) | Yes | No |
| Speech Prognosis _____ | (underline) | Curable | Trainable |
| Remarks _____ | | | |

als are also repeated. For each test sound that is incorrectly made the examiner writes as nearly as possible just what the child says.

Causes.—Articulatory disorders arise from two main causes: (1) organic defects, and (2) inadequate or faulty training. In terms of the number of cases, the second of these is probably of greater importance.

Training in speech articulation may be faulty because of mental deficiency and hence difficulty in learning, or because the examples set by the models the child imitates are intentionally or unintentionally faulty. As we have earlier pointed out, speech begins later among mentally retarded children. Abt, Adler, and Bartelme (1929) found correlations, based on data from 1000 white children, between age of onset of speech and I.Q., of -41 ± 0.03 for boys and -39 ± 0.03 for girls. This fundamental difficulty exhibited by the feeble-minded in learning to speak is reflected in the high frequency with which speech defects are found among them. Wallin (1927) reports 28 per cent of children in the regular grades and 26.3 per cent of children in classes for the subnormal exhibiting defective speech. Louttit and Halls (1936) found that 10.6 per cent of children in special classes, most of which were for subnormals, exhibited defects.

Kennedy (1930) found the following percentages of speech defects among feeble-minded:

| | Number | Per Cent |
|---------------------|--------|----------|
| Morons | 249 | 42.6 |
| Imbeciles | 32 | 96.9 |
| Idiots | 32 | 100.0 |

Morrison (1914-15) found among 25 children, selected because of speech defects from a group of 218 kindergarten pupils, seventeen who were below average in intelligence, six who were average, and only two who were above average. The conclusion from these studies must be that low intelligence is often a reason for articulatory difficulties, and therefore ability levels should always be determined before corrective work is undertaken.

Faulty training resulting from poor speech environment is probably the most significant reason for articulatory defects among young children. Proper articulation and pronunciation depend upon proper models to be imitated, proper methods to be learned. If parents or older children do not articulate clearly the young child will not. Furthermore, if parents encourage a sound substitution speech called "baby talk" which they regard as cute, then the child can hardly be expected to develop suitable articulation. After the child starts to school and finds that teachers and schoolmates make many sounds differently, many of these disorders spontaneously clear up. Thus in Louttit and Halls' (1936) data the ten per cent of defects in the beginning first grade decreases to about five per cent in the third grade and to two and one half per cent in the sixth grade.

The data in Table LXI show that about ten per cent of articulatory disorders are due to structural organic defects. Such organic disorders may be in the central nervous system where certain lesions produce rather characteristic speech patterns. Usually the characteristics of these patterns are in phonation rather than in articulation. Structural anomalies of the peripheral speech organs, especially of the oral and nasal cavities, are of perhaps of more importance than pathology of the central nervous system. Among the more common abnormalities are unusually large or small tongue, short space between anterior end of the frenum and the tip of the tongue, and paralysis of the tongue. The uvula may be abnormally long or thick, or bifurcated even to the extent of forming a double uvula. The palatal arch may be vaulted, or incomplete as in cleft palate. The cleft in the palate may extend through the hard and soft palates and the upper lip (hare lip) in any degree. Dental abnormalities such as imperfect dental arches, irregular tooth placement, or malocclusion all interfere with the pro-

duction of sounds, although they play an entirely passive part. Pathology of the nose and sinuses interferes with both the nasal sounds and the resonance of the head cavities. Enlarged adenoids interfere with the nasal passages, and sometimes following their removal training must be given in exercise of the soft palate. The effect of these various conditions on articulation will be quite obvious if the reader will experiment with sound production himself.

We have pointed out that deafness is a common cause of delayed speech. Defective hearing may be a reason for articulatory disorders. If the child does not hear a sound properly he will learn the improper sound, and thus only approximate the one which is conventionally acceptable. Travis and Rasmus (1931) have devised a test for determining a patient's ability to distinguish between sounds. This discrimination test is of great usefulness in determining the efficiency of hearing.

Management—The correction of articulatory disorders should be undertaken only with children of not less than slightly below average mental ability, who have no organic abnormalities. Consistent training of mentally low-grade children may result in some improvement, but there is a serious question whether the results justify the effort required. When a child has a structural abnormality this must be repaired by surgery or orthodontia whenever possible, otherwise, there is little purpose in attempting correction. On the other hand, the repair of cleft palates has no purpose except to make possible better speech, and this can be brought about only by training following the repair. Orthodontia and repair of harelips have an esthetic purpose, but here also speech will be improved with training.

The correction of articulatory disorders is primarily a matter of reeducation. Travis (1931) argues that the production of any sound involves the use and coordination of every part of the speech apparatus. With this postulate, he holds that corrective training should not be directed toward lip or tongue movements alone, rather "entirely new total reaction pattern must be acquired." There can be no doubt that speech habits are total patterns, but the usual training procedures are directed toward the formation of specific tongue, lip, or palate habits. Whether successful results are secured because of such training, or in spite of it, as Travis claims, would seem to be immaterial.

Training of a child with average, or better than average, mental ability with no structural defects is carried out briefly thus: First, the speech sounds which he makes incorrectly are determined. One at a

time, these sounds are demonstrated and the child is taught to reproduce them correctly. When he is able to do so, daily practice must be followed until the correct sound pattern becomes thoroughly habitual. A similar program is followed for each incorrect sound. Exercises including syllables, words, and sentences for use in this type of reeducation have been published by Travis (1931), Greene and Wells (1927), and Twitmyer and Nathanson (1932).

RHYTHMIC DISORDERS

The production of proper speech sounds in connected discourse depends not only on the ability to articulate properly, but also on the satisfactory coordination of respiration and the activity of the whole speech apparatus. When this rhythmic coordination is interfered with, the individual is unable to speak smoothly. Observation of his speech shows repetition of initial sounds, of syllables, and sometimes an inability to produce an initial sound at all. Such arrhythmic disorders are called stuttering.¹

The most immediate symptom of stuttering is, of course, the person's speech. He repeats syllables, words, or sometimes phrases, especially when starting to speak. Sometimes the repetition is only of a beginning sound, as in r-r-r-run; sometimes attempts to say words starting with particular letters may be entirely blocked in a tonic spasm. Some stutterers have particular difficulties with vowels and certain consonants, while others show no specificity. The disorders in speech are not, however, the only symptoms of stuttering. Travis lists no fewer than fourteen, as follows: (1) Opposition of thorax and abdomen action. (2) The larynx may move synchronously with the abdomen, the thorax, or both, instead of with the independent movement shown in normal speech. (3) Marked protraction of inspiration and expiration. (4) Marked inequality in the extent of consecutive respiratory movements. (5) Interruptions of expiratory by short inspiratory movements. (6) Clonic and tonic spasms of the musculature of any part of the speech apparatus. Such muscular spasms may be evident in non-speech musculature. (7) Tremors in certain movements of the speech mechanism. (8) Tonal rigidity in the voice because of

¹ Stammering is frequently used as a synonym for stuttering. However, Greene and Wells (1927) and others use this word for articulatory disorders. Travis (1933) says stammering is characterized by speech blocks, while stuttering is characterized by repetitions. This confusion in the use of the word stammering is a good argument for not using the word at all.

abnormal tension of muscles controlling the vocal cords (9) Tones are held an abnormally long time, (10) Periodic fluctuation of breath pressure. (11) Characteristic variations in the form, extent, and length of consecutive voice waves (12) Extremely brief approximation of the vocal bands below and between tones (13) Extreme abruptness of initiation of tones. (14) Disintegration in the movements of the speech mechanism as a whole Travis (1931) has summarized the researches of himself and others and has published typical curves illustrating a number of these symptoms We must refer the reader to this work for an extended discussion of this symptomatology

In a somewhat more comprehensive fashion Brown (1931) has pointed out that most, if not all, of the students of stuttering problems are agreed on the following ten points regarding the nature of the disorder.

1. Stuttering is a disorder of speech characterized by clonic or tonic spasms of one or more parts of the peripheral speech mechanism, and by the resultant interruption or inhibition of the rhythm of speech

2. The immediate physiological cause of stuttering is neuromuscular incoordination in one or more of the peripheral speech organs.

3. This neuromuscular incoordination is usually accompanied by (a) general hypertonicity of other muscle systems, and (b) more or less marked evidences of emotional disturbances

4. With most stutterers the incoordination is greater in certain social situations than in others, while in some situations it does not occur at all.

5. Most stutterers, while stuttering, present either physical and emotional evidences of fear or anger or both, or muscular tensions indicative of suppression of the outward manifestations of these emotions.

6. Most adult stutterers say that they have a fear of stuttering, a fear of meeting strangers or persons in authority, or a fear of certain situations, that they are often angry at themselves for being afraid or because they stutter; that they are sometimes angry at others in whose presence they stutter; that they are embarrassed or self-conscious, that they have feelings of self-pity, inferiority or superiority; that they know

7. Mental or emotional disturbances are usually associated with the terminology to describe them as such

8. The environment, *per se*, as a rule, contains no adequate stimuli

for the production of stuttering or its physical and emotional consequences, only about one person out of one hundred is stimulated to such reactions in a given situation.

9. Thorough medical and anatomical examinations reveal, in most cases of stuttering, no disease or defect of the organs of speech or of the nervous system which are adequate, in nature or extent, to produce the disorder.

10. The neuromuscular incoordinations which result in the type of speech designated as stuttering, and the physical and emotional reactions which usually accompany them, do not occur without cause.

Incidence.—The data in Table LXI from the White House Conference report shows 22 per cent of the school population surveyed exhibit a stuttering defect. This is a very high figure. Travis (1933) says that various surveys agree in finding about one per cent of the school population with stuttering defects. This lower figure is found in the survey of Wallin and in that of Louttit and Halls, as shown in Table LXII. Greene and Wells (1927) estimate that there are at least 400,000 stutterers in the United States. It seems most probable that the incidence of stuttering is around one per cent.

Oddly enough, the incidence among boys is much higher than among girls. West (1931), on the basis of data from over 10,000 stuttering children, finds the ratio of boys to girls to vary by grade as shown in Table LXIII. In the Indiana survey the ratios, based on 1519 cases of stuttering, were slightly less. Ratios found by other investigators vary from two to one, to ten to one. The reason for a

TABLE LXIII—SEX RATIO AMONG STUTTERERS

| Grade | Boys to One Girl | |
|--------|------------------|-------------------|
| | West | Louttit and Halls |
| I | 3.1 | 3.3 |
| II | 3.4 | 3.8 |
| III | 3.6 | 3.0 |
| IV | 4.2 | 2.3 |
| V | 4.2 | 2.6 |
| VI | 4.0 | 3.4 |
| VII | 4.8 | 3.2 |
| VIII | 3.7 | 3.7 |
| IX-X | 3.7 | 2.7 |
| XI-XII | 5.5 | 3.9 |

greater frequency of stuttering among boys has not yet been satisfactorily explained.

Mental Ability.—The distribution of I.Q.'s of stuttering children approximates that of children with normal speech, as is shown in the data in Table LXIV. Travis' (1931) group included only 75 children, while West's (1931) data are based on 4059 stutterers.

TABLE LXIV—I Q DISTRIBUTION OF STUTTERERS

| I Q | Travis | West |
|-----------------|--------|------|
| Above 120 | 9 6 | 7 2 |
| 110-119 | 16 4 | 13 1 |
| 100-109 | 37 0 | 20 7 |
| 90- 99 | 19 0 | 25 7 |
| 80- 89 | 12 0 | 19 9 |
| 70- 79 | 2 7 | 10 3 |
| 60- 69 | 1 4 | 2 5 |
| 50- 59 | | 7 |
| Below 50 | | 07 |
| Number of cases | 75 | 4059 |

The median I.Q. for West's group is 96.5, or well within the average. However, the educational achievement of stutterers is not as high as their intelligence distribution would appear to warrant. Wallin (1926) found an average retardation of over one year for stutterers, with the following distribution:

| | Number | Per Cent |
|--------------------|--------|----------|
| Retarded 0 years | 90 | 17 7 |
| " ½ year | 5 | 1 0 |
| " 1 " | 185 | 36 4 |
| " 2 years | 134 | 27 5 |
| " 3 " | 55 | 10 8 |
| " 4 " | 24 | 4 7 |
| " 5 " | 6 | 1 2 |
| " 6 " | 2 | 4 |
| " 7 " | 1 | 2 |
| Accelerated 1 year | 6 | |

Evidently the stuttering child's defect operates in a decided fashion against his school achievement

Etymology—The etiology of stuttering is not at all clear, and proposed etiologic factors are intimately bound up with the theories of its nature. Brown (1931) lists seven current theories which may be conveniently reduced to five by combining three of them which are minor variations of the educational type. The five current theories may be

called (1) educational, (2) imagery, (3) personality, (4) psychoanalytical, and (5) neurological.

1. Educational Theory.—The educational theory holds that stuttering is primarily a bad habit Stoddard (1931) says that this view was held by Mr. and Mrs. Frank A. Reed, who established a school in 1900 in which the method of correction followed this theory. Modern proponents of the view are McDowell (1931) and Russell (1931). McDowell (1928) compared the educational and the emotional adjustments of stuttering children and found no appreciable differences except in accuracy of articulation. The weight of other evidence would appear to invalidate this view, and Brown (1931) has specifically pointed out that McDowell's own conclusions rest on very insecure experimental procedures.

2. Imagery Theory.—The theory that stuttering is due to lack or inadequacy of visual imagery is most tenaciously held by the Swifts (1918, 1931). Bluemel (1930, 1931) holds an essentially similar theory. Swift claims that the stutterer lacks visual imagery in his thinking which may be permanent, or may occur only when he stutters. Bluemel says that stuttering is really a thought disturbance, particularly an inability to think words clearly in the mind.

3. Personality Theory.—This theory holds the view that stuttering is symptomatic of a personality disorder, that speech disturbance arises because the individual is unable to react adequately to social situations. Blanton and Blanton (1920) and Fletcher (1928) have based their work on this theory, and a study by Schroeder and Ackerson (1931) gives support to this view. By tetrachoric correlational analysis of material from case records of the Illinois Bureau of Juvenile Research the latter found relationships between stuttering and a number of other behavior problems. The highest coefficients were $+ .29$, with the notation "psychoneurotic," and $+ .22$, with the notation "mental conflict." Other smaller positive coefficients were found for most of the traits usually taken to indicate personality disorders. Conversely, negative coefficients (highest $- .27$, with notation "bad companions," and $- .24$, with "running with a gang") were found with those traits usually taken as indicative of conduct problems. It is the present author's opinion, based on the literature and on contact with stutterers, that this theory is more adequate than any of the others.

4. Psychoanalytic Theory.—Coriat (1928, 1931) has developed

the psychoanalytic theory of stuttering. In this view, stuttering occurs in those individuals in whom the libido has become fixed at the oral erotic stage of development. It is claimed that the motor accompaniments of stuttering speech are replicas of behavior during nursing. Stuttering is a gratification of the infantile oral tendency; thus the stutterer unconsciously desires to stutter.

5 Neurological Theory.—This theory seems to have been first suggested by Sachs (1924), although Travis is its best-known proponent. A number of researches by Travis and his students have been summarized by him in his *Speech Pathology* (1931), which is the most extensive treatment of the theory. This neurological theory holds that stuttering is due to a lack of dominance of one cerebral hemisphere over the other and over lower neural levels. Because of the bilateral innervation of the various pairs of speech muscles it is necessary to have a single dominant neural control to secure integrated action of the speech mechanism. This can be secured only by the existence or establishment of one-sided cerebral dominance.

Obviously the etiological factors to be emphasized will vary according to which of these theories one adheres to. Nevertheless, several factors of probable importance may be mentioned. Heredity has been suggested by a number of investigators. Makuen (1914) reported 39 per cent of 1000 stutterers as having relatives who stuttered. Bryngelson (1931) reports that 55 per cent of 162 stutterers had other stutterers in the family. The same investigator, as reported by Travis (1933), found 74.6 per cent of 594 stutterers who had relatives similarly afflicted. These data cannot be taken directly to prove the presence of hereditary factors because they make no allowance for possible imitation of other stutterers in the family. McGinnis (1931) suggests that there may be an inherited weakness of the cortical speech areas and of a predisposition to emotional instability. Whatever influence hereditary factors may exert in any sort of personality disorder would be similarly exerted in stuttering.

Injuries at or after birth may play some part. Infectious diseases have been suggested as important etiological factors. Gerstmann and Schilder (1921) report a stuttering type of speech disturbance as a sequel to encephalitis. Liljegren (1931) reports that 45 per cent of the girls and 48 per cent of the boys in her group had or had had breathing obstructions, 70 per cent of the girls and 61 per cent of the boys had

poor or impaired health during babyhood. Such reports as these indicate that many biological factors may have some significance in the etiology of stuttering.

Another possible causative factor, variously emphasized by different investigators, is the presence of articulatory defects. Gifford (1931) says, "There are two distinct periods when stammering [i.e., stuttering] appears. The first type occurs during the acquiring of articulatory coordinations, when the child is fumbling not only for speech and language, but also is laboring under the stress of many intruding ideas. If no serious emotional disturbance comes at this time, the child sooner or later establishes the proper coordinations, and 'outgrows' his stammering." The second period is after speech and language have been acquired; the "histories of these cases show that an emotional maladjustment, due to environmental disturbances is causing some emotional conflict." We are here concerned only with the first of these periods.

It is quite generally believed that most children pass through a temporary period of speech disturbance essentially of a stuttering nature. Sometimes this disturbance persists, usually it does not. The reason for persistence in some children and not in others is unknown, although differences in physical and mental hygiene are probably of greatest significance. Other things being equal, the chances are greater that the child whose family reacts to the stutter in this neo-speech stage by nagging and constantly calling attention to it as a defect will retain the disorder. Where the problem is met by advice to take things easy or by calling no attention to it, there is greater likelihood that it will disappear.

The importance of the neo-speech stage in the problem of stuttering is shown by data concerning the age of onset of the disorder. Table LXV, based upon Wallin's (1926) data, shows that 67 per cent of 432 stutterers for whom the information was available had stuttered since before three years of age. The total percentage who began to stutter during the pre-school period was 81.5, while 18.5 per cent began during their school career. Liljegren (1931) gives the following figures, based on 333 stutterers, which are similar to Wallin's.

| | Girls | Boys |
|------------------------------------|-------|------|
| Before kindergarten | 50 | 46 |
| Kindergarten or first grade . . | 30 | 31 |
| Second, third, or fourth grade . . | 18 | 14 |
| Above fourth grade | 2 | 8 |

SPEECH DEFECTS

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TABLE LXV —AGE OF ONSET OF STUTTERING

| | Number | Per Cent |
|------------------|--------|----------|
| Indefinite age | | |
| Always | 52 | 12.0 |
| Early life | 12 | 2.8 |
| Infancy | 129 | 29.8 |
| Beginning speech | 17 | 3.9 |
| Totals | 210 | 48.5 |
| Definite age | | |
| Pre-school | | |
| 1 year | 15 | 3.5 |
| 2 years | 35 | 8.1 |
| 3 " | 30 | 6.9 |
| 4 " | 28 | 6.5 |
| 5 " | 34 | 7.9 |
| Totals | 142 | 33.0 |
| School age | | |
| 6 years | 13 | 3.0 |
| 7 " | 16 | 3.7 |
| 8 " | 10 | 2.3 |
| 9 " | 15 | 3.5 |
| 10 " | 11 | 2.5 |
| 11 " | 7 | 1.6 |
| 12 " | 5 | 1.2 |
| 13-17 " | 3 | .7 |
| Totals | 80 | 18.5 |

Associated with the occurrence of stuttering during the early speech-learning period is the coincidence of articulatory disorders and rhythmic disorders. Liljgren (1931) says that "almost 50 per cent of the girls and more than 44 per cent of the boys enrolled in our classes have or have had articulatory difficulty." In the comparison between stutters and non-stutters made by McDowell to which we have earlier referred, the only appreciable difference between the groups was in accuracy of articulation. Other speech teachers report that they do not find articulatory disorders and stuttering frequently associated. From available evidence it may be concluded that difficulties in articulation may be the starting point in some cases of stuttering, but in such cases the articulatory defect is embarrassing and the emotional conflicts resulting therefrom interfere with rhythmic speech.

Changing from left- to right-handedness has long been held to be a cause of stuttering. The neurological theory rests ultimately on this, because cerebral dominance can, according to the theory, be maintained only if a person is predominantly, in fact, wholly, either left- or right-sided. Bryngelson (1931) says that 62 per cent of his cases had been shifted from left to right, 61 per cent were ambidextrous, and 44 per cent had left-handedness in the family. Ballard (1912), in an individual study of 11,939 children, found that among dextro-sinistrals (those who had been changed from the left to the right hand, especially in writing) 17 per cent stuttered and 25.8 per cent had stuttered. In contrast to this, Parson (1924) claims that after a policy of training all left-handed children to write with the right hand had been in effect for four years in the Elizabeth, N. J., schools, not a single case of stuttering among 15,000 children could be traced to the change. These opposing reports are typical of many others. In summarizing a number of them, Travis (1933) says that the question is far from settled, because all studies show a significant number of stutterers who are pure dextrals and a significant number of normal speakers who are sinistrals or ambidextrous. It is quite possible that the manner in which the change in handedness is made may be significant. If the child is forced to make a change in such a way that emotional disturbances arise, there may be greater likelihood of stuttering developing.

In all of the theories mentioned earlier a place is made for the effect of emotional disturbances. Adherents of the habit and imagery theories admit that emotional disturbances may aggravate the disorder; the personality and psychoanalytic theories depend, in essence, on emotional disturbance; and even Travis suggests that emotional conflict may destroy the slight margin of dominance enjoyed by one hemisphere. The sources of emotional factors in stutterers have been enumerated by Kenyon (1931) as follows: "(1) constitutional, congenital, emotional instability, (2) factors related to environmental conditions as such; (3) factors related to the stammerer's [i.e., stutterer's] attitude toward speech production (exactibility, rapidity, carelessness), (4) factors related to the stammerer's attitude toward his environment; (5) the complicated nature of the speech disturbance, which serve to intensify all other emotionalizing tendencies."

We can picture the sequence of events in stuttering somewhat in this way

1. An emotional instability caused by organic or developmental factors.
2. A situation which increases the instability—for example, embarrassment, fear, or possible organic factors
3. Interference by the emotionalism in the delicate speech organization
4. Interruption in the rhythmic flow of speech, i.e., stuttering.
5. Worry about the stuttering, and fear of speaking because of possible embarrassment
6. Increase of stuttering and the institution of a vicious circle

Management—In the symposium edited by West (1931) that we have referred to so frequently in the preceding discussion there is one point upon which all workers seem agreed Truly enough, adherence to particular theories emphasizes the great importance of special technics based upon their beliefs. But they are agreed that each case of stuttering must be treated as a new individual problem. This requires a careful anamnesis of the patient, with special attention directed toward the possible occurrence of etiological factors suggested above

Treatment methods include programs of physical hygiene, mental hygiene, and special technics

Physical hygiene is first concerned with the subject's physical health As in all behavioral problems, organic difficulties and defects must be cleared up or improved as much as possible before working with the behavioral difficulty In the case of the stutterer there are two physical conditions which always require improvement. One of these is breathing. We have earlier pointed out that abnormal breathing, at least during speech, is a constant characteristic of stuttering Breathing exercises are usually therapeutic in value These may take the form of a series of inspirations and expirations following a definite cadence; the expirations may be modified by using them to make the sound *ah*. It has been suggested that swimming is a good exercise for stutterers because it requires a rhythm between breathing and muscular movement The aim of any breathing exercise should be to teach the stutterer that the rhythm of respiration may be modified and controlled The second physical condition characteristic of the stutterer is a widespread muscular tenseness, especially during speech Therefore, effort should be made to teach the stutterer to relax. This may conveniently

be done immediately following a series of breathing exercises because the subject is then fatigued. Methods of developing relaxation have been extensively described by Jacobson (1929, 1934). Mere muscular relaxation is not the ultimate aim of such exercises; rather, the attempt should be made to teach the stutterer to act calmly in general.

Mental hygiene, at least in a broad sense, is also common to most treatment systems. This involves the discovery, recognition, and removal of any factors in the person's social environment that tend to produce emotional conflicts or other unhygienic mental conditions. One thirteen-year-old boy treated at the James Whitcomb Riley Hospital showed no improvement in his speech until certain conflicting home conditions had been alleviated. Emotional conflicts arising from fear of the listener's reaction to his speech, fear of a parent or school teacher, embarrassment in the presence of certain individuals, and other circumstances of this nature must be overcome. Usually the evil of such conditions is in the subject's own attitudes rather than in the attitudes or behavior of those who listen to him. Therefore, the aim of mental hygiene is to remove the incubus of fear from the patient. Put in other terms, the task amounts to reestablishing the stutterer's confidence in himself.

Specific techniques depend largely on one or the other of the above-mentioned theories. In common use, although probably more closely related to the personality theory, are exercises in reading aloud, recitation, or ordinary conversation. After the person is relaxed, perhaps lying down, a conversation may be started about ordinary affairs during which an effort is made to maintain the relaxation. The patient may read aloud passages of prose or poetry, or recite material that has been memorized. Mrs. E. C. Halls has had adolescent subjects prepare arguments on a selected topic and present them to her as a debate. This method has proved useful in a number of cases.

Practice in articulation and phonation is used by the adherents of the habit theory. The thesis is that with the achievement of satisfactory sound production the rhythmic disorder will disappear. Certainly any case that shows a definite articulatory disorder should be treated for that first. In such cases improvement in speech rhythm accompanies improvement in articulation. However, at least half and probably more than half of all stutterers show no articulatory disorder.

The psychoanalytic theory requires psychoanalytic therapy aimed at releasing the libido which has become fixated at the oral-erotic level.

This type of psychotherapy is highly specialized and should be undertaken only by those who have the proper training.

According to the imagery theory, stuttering is due to the sufferer's lack of ability to visualize the thing about which he is speaking. Therapy based on this theory endeavors to train the subject in visual imagery. Williams (1931) describes the method of this training. What visual images or mental pictures are is explained to the child. He may then be asked to tell about some object with which he is very familiar, and he is supposed to have a mental picture of this object while speaking. He may be asked to memorize a line or two of poetry and then recites the words while keeping a mental picture of them. In general therapy it may be well to inquire about the subject's imagery, and if it is lacking to attempt some improvement.

The therapeutic aim, according to the neurological theory, is to establish a dominant gradient of excitation in the central nervous system—in other words, to establish the dominance of one cerebral hemisphere over the other and over lower neural centers. This is accomplished, to quote Travis (1931), "along two general lines. (1) the carrying out of certain exercises to increase directly the dominance of one hemisphere over the other and lower levels, and (2) the elimination of certain psychological and environmental factors which operate against the establishment of and toward a reduction in a dominant cortical control." The first of these is brought about thus. In the case of subjects whose handedness has been changed, the first step is to retrain the left hand for writing and all other unimanual activities. Subjects who are to continue to use the right hand and others who have changed to the left hand, practice writing and saying words simultaneously. The exercise may consist in copying from a book or writing original material. The important thing is that the motor acts of writing and speaking should occur at the same time. Later practice omits writing the whole word, only the first letter is written when the word is spoken. This procedure tends to establish the necessary one-sided dominance.

Cases—The two following cases illustrate stuttering as a symptom of a personality disturbance. In the first case the home and its poor speech patterns made the setting for the child's speech habits. These, together with his poor physical appearance, were the basis for his feeling of inferiority and the associated embarrassment. In the second

case the personality attitudes were more subtle in origin. In both cases the stuttering yielded to treatment of the personality disturbances

Case Number 39 (Brown, 1933). A boy, fourteen years of age, IQ 92, and in the seventh grade, was referred as a stutterer. Speech examination showed, in addition to stuttering, the following disorders in such a marked degree as to make speech at times quite unintelligible. lispings, general negligence of articulation, inactivity of tongue and lips, and sound substitution of the "Lower East Side" variety, illustrated by such pronunciations as "goil" for "girl" and "brudder" for "brother."

Physically and intellectually, the boy's heredity was bad, and the home environment into which he was born was characterized by social and economic inadequacy and emotional instability. He was one of thirteen children, three having died in infancy. Both parents and all of the children were physically weak and subject to many illnesses, fatigue, and in several cases indolence. The father, because of some mysterious illness, had been out of work for two years. An older brother had several times attempted suicide. The family had been under the partial or complete care of charitable organizations for the past ten years.

According to the boy's mother, whose memory was quite unreliable, he began to stutter when speech was first attempted, but the boy himself stated that it began a little after his fourth birthday during an illness which left him unable to walk properly for nearly a year. At the age of five he entered kindergarten. Besides stuttering slightly, he lisped badly and was already, he says, shy and self-conscious because he did not speak like other children and because he had "such a funny face." His upper front teeth were very large and protruded at an angle of about forty-five degrees. The kindergarten teacher, who a few months later was sent to a sanitarium suffering from a "nervous breakdown," was greatly irritated by his lisping, poorly articulated speech. She disliked him from the start, he said, and attempted to cure him of his speech difficulties by scolding him, making fun of him, slapping him on the head with books and rulers. In a short time he became so "nervous" and ill that a physician advised his removal from school. After a year, during which his stuttering practically ceased, he entered first grade in another school, where he began to stutter more severely.

It was possible to meet this boy for treatment only one-half hour a week over a period of ten weeks. It was felt that the correction of the mechanical disorders plus the employment of positive mental

hygiene would bring about considerable direct improvement and might serve to release certain nervous and emotional tensions, reduce the feelings of inferiority, and perhaps give encouragement and a sense of accomplishment to a very hard-working and ambitious boy, thus indirectly relieving the stuttering.

From the beginning a great deal of direct and indirect suggestion was employed. He spoke freely of his feelings of inferiority to other children, economically and socially, in personal appearance and dress, and in speech. He believed that he stuttered because he was embarrassed on account of his inferiorities and that if he could only learn to talk ("talk" meant articulate) he would not be so embarrassed and, therefore, would not stutter. This point of view was accepted and it was pointed out that his difficulties in talking were undoubtedly the result of his early physical weakness, his protruding upper teeth, the poor models of speech in his home, and the fact that no one had ever taught him the "easy" tricks of using his tongue and lips correctly in talking. He was taught how to produce all of the consonant sounds and combinations, and was given lists of illustrative words and reading exercises which he practiced every day. His handicaps were passed over lightly, emphasis being placed on his abilities, courage, diligence, and application and his achievement in progressing so far in school in spite of his illness and the lack of the economic and social advantages of those with whom he competed on an equal footing in educational pursuits. He readily accepted the constantly repeated suggestions that he was making up for his physical, economic, and social inferiorities by his success in school, and that his talking difficulties could be overcome with practice.

By the end of the ten weeks his stuttering and lisping had entirely disappeared except on infrequent occasions of excessive fatigue or emotional stress, and his control of tongue and lips became practically automatic. His sound substitutions still appeared when he forgot to pay attention to them, but he was fully aware of the fact that these difficulties were constantly augmented at home because the substitutions were a part of the family dialect. Because of his whole-hearted acceptance of the suggestions offered, his ambition, his constant application to the task of self-improvement, and because of his growing satisfaction at his ever-increasing control over his mechanical difficulties, which had been a primary source of the emotional conflicts resulting in his stuttering, prognosis for the complete and permanent correction of all of his speech difficulties is very good.

Case Number 40 (Brown, 1933). A boy in the ninth grade, fourteen

years old, IQ 129, was referred as a severe stutterer. He had been troubled with croup and colds as a baby, and continued to be very susceptible to colds and sore throat. He was exceptionally tall for his age, underweight, undernourished, slightly anemic, and easily fatigued. These conditions were being treated by the family physician, who felt that they produced his "nervousness" and that his stuttering would be "outgrown" as he gained physical strength and built up resistance.

While this case presented a number of complicating factors, including a scolding invalid grandmother who kept the family in constant turmoil, the boy's mother furnished the key to his difficulty at the first interview. He had been badly affected, she said, by the death of his younger brother in July, four years ago. Since that day he had never spoken of his brother nor would he remain in the presence of others who were speaking of him. He began to stutter in the fall of the same year, the day he returned to school.

This boy was seen for one period of a half to three-quarters of an hour weekly for a period of twenty weeks, and was a member of the group of stutterers meeting once a week for conversation. Because of his high intelligence and the known existence of a serious emotional disturbance of which he was, in part, painfully conscious, his brother's death was made the point of direct attack, the conversation gradually leading up to it at the third interview. His memories of his brother, his relationships with him and attitudes toward him, the circumstances leading up to his brother's death, and his own reactions to that event were carefully and sympathetically discussed.

In summary, it may be said that he had always been very jealous of his brother, had often knocked him about and hurt him, and had attempted, unsuccessfully he believed, to get his parents to see that he was the smarter and better of the two. When the brother died, he was filled with remorse for having treated him so badly and, after a few weeks, the conviction developed that he had been responsible for his brother's death, that his parents knew it and would never forgive him, and that he could never hope to attain the position in their affections that his brother had held. He found some solace at first in lavishing the affection and care that he felt he should have shown toward his brother on the brother's pet dog. But he was soon deprived of even this outlet when the dog was killed by an automobile, and he felt that he had lost his last friend and confidant.

Stuttering began suddenly the day he entered seventh grade in a new school, where he was lonely, in strange surroundings, and with many new and unfamiliar faces around him. On the way to school and after reaching the classroom, he kept thinking of his brother, grieving

that he had been "put away" and that he could never again come to school with him or play with him as in former years. His mind was filled with such thoughts when the teacher called on him to tell his name and give other personal information to the class. As he arose to speak, he felt strange and frightened and could think only of his brother. He could not speak his own name, for only the name of his brother came to mind. He stammered and blushed and hung his head, and when the teacher remarked, "I guess he doesn't know his name," he sat down without speaking. From this time on his speech difficulty was present, varying from time to time from fear and embarrassment which prevented him from attempting to speak, to forgetting what he wanted to say or stuttering severely after he was on his feet. At home he stuttered badly and could not talk over the telephone at all.

Another conflict of major importance, centering in his curiosity regarding the opposite sex, already existed at the time of his brother's death. Severe punishment and shame had followed an unsuccessful attempt to satisfy that curiosity, leaving him fearful and embarrassed when in the presence of girls, yet longing for their company. Following the onset of stuttering, this conflict determined, in a roundabout way, the direction of the outlet of his pent-up emotions. He looked forward with pleasure to the many parties, dances, and other social functions to which he was invited and in his daydreams was the most popular boy in his group. Yet, as the hour of the party approached, he became nervous and anxious and often had to remain at home because of a stomach upset or a headache. He told himself that his fears were due to his stuttering. At these and at other times, however, he found great pleasure in reading detective stories of a romantic nature, in which he always identified himself with the hero into whose arms the beautiful maiden rushed or fell after he had rescued her. As soon as he had finished one of these stories, he reconstructed the plot, and often lay awake at night creating plots of his own. In each case he accomplished the solution of the mystery through the use of an imaginary telescope of his own invention which enabled him to see through any type of material or obstruction. His ambition was to be the world's most famous detective. The pleasures gained from these phantasies made the realities of school and social life even more difficult to face.

The solution of these major conflicts and the free discussion and interpretation of minor emotional disturbances together with his return to participation in school activities, his association with his friends, and the acquisition of "a girl" of his own, were the chief steps taken in the reintegration of his diverse personality trends. His "nervous"

headaches and stomach upsets ceased. His difficulties in speaking at school and at parties diminished until they occurred but rarely, and he was able, at such times, to master the feelings that swept over him and go ahead without any one apparently noticing that he had had trouble. His mother reported that he had stopped stuttering at home and that he used the telephone at every possible opportunity. The grandmother, in fact, had begun to scold him for wasting his time talking to girls over the phone, when he should be studying.

DISORDERS OF VOICE

Disorders of the voice or phonation include conditions in which the child does not produce smooth, pleasant, audible tones. Such conditions as huskiness, hoarseness, nasality, shrillness, stridor, weakness, loudness, monotony, and the like are usually included. According to Table LXI, about four per cent of the children included exhibited disorders of this sort.

The causes of voice disorders are, according to the data of Table LXI, about equally divided between structural and functional. Structural causes may be peripheral or central. Peripheral structural disorders are referable mainly to non-oral parts of the speech mechanism, while central structural causes include neurological diseases. Also in the group of organic causes must be included certain endocrine disorders. Functional causes include those disorders (which may be clinically similar to ones of organic etiology) for which no organic cause can be found and which are the result of poor habit formation.

Hoarseness and huskiness may result from laryngitis, pharyngitis, vocal cord pathology, or strain from excessive screaming or shouting. Nasality may be caused by nasal obstruction because of adenoids, infected turbinates and severe common cold. Cleft palate affects voice as well as articulation.

Neuropathological conditions may affect the voice. Multiple sclerosis has a characteristic slow, scanning, monotonous speech. Cerebellar lesions affect the voice so that it is slow and monotonous. The speech in juvenile paresis may be slurring and stumbling. In paralysis agitans and Parkinsonianism speech is slow and monotonous; festination is sometimes present. In progressive bulbar paralysis the progressive involvement of cranial nerves affects swallowing and coughing as well as speech; speech may be nasal, high pitched, indistinct, labored, and finally entirely unintelligible. Choretic speech is jerky and irregular. The speech of epileptics is sometimes monotonous, thick, and indis-

tinct. In Friedreich's ataxia the patient has a "hot-potato-in-mouth"-sounding speech. Some endocrine disorders, such as hypothyroidism and, in males, hypogonadism, have rather characteristic voice disturbances. The cretin or myxedemous patient has a slow, coarse, rough, monotonous speech. The high-pitched, falsetto-like voice of the eunuch or eunuchoid is characteristic.

Functional disorders of the voice are usually the result of the formation of poor habits. These may be formed necessarily, e.g., when the child must raise the voice in order to speak to a deaf person in the home, or in imitation of the loud or shrill voice of parents or others frequently or constantly heard. Weak, timid, inaudible voices may develop as part of the syndrome of a negative, withdrawing type of personality. Occasionally in hysteria there is complete loss of voice, or it is reduced to a whisper.

Disagreeable or undesirable voice conditions may, when not caused by uncorrectable structural conditions, be improved by training. Certain organic conditions, such as adenoid vegetations, laryngitis, pharyngitis, etc., must be treated surgically or medically, and this medical correction should be followed by speech training. Soft-palate exercises such as yawning, or saying such sounds as *ah, ung, ding-dong, ing-ick*, etc., are useful, especially in nasality. Disorders arising from poor habits may be corrected by retraining, but the stimulating situation must be removed if the improvement is to be permanent. Weak and inaudible voices occurring as part of a personality picture can be corrected only by treating the total condition.

APHASIA

Aphasia is a generic term used to denote various types of inability to deal with symbolic formulation and expression. One might well argue that it is a language deficiency rather than a specific speech disorder. The condition appears to be rare in children for, according to Table LXI, it was found in less than one child per 10,000 of the school population.

Classification of the various conditions subsumed under the term aphasia is difficult because of the relative lack of pure examples of any proposed subdivision. One of the best-known but probably least widely accepted classifications is that of Head (1926), who describes four clinical groups: (1) *Verbal defects* in which the power to form words is defective; (2) *Syntactical defects* in which grammatical structure is

affected, although words may be recognized (3) *Nominal defects* in which there is inability to detect the nominal significance of words. (4) *Semantic defects* in which there is a lack of power to combine details into a coherent whole.

Weisenburg and McBride (1935) say that this classification of Head's does not outline types that can be generally observed. They propose a fourfold classification which forms the basis of their discussion. The four groups are: (1) the *predominantly expressive*, corresponding generally to motor aphasia with the chief disorders in speech and writing; (2) the *predominantly receptive*, corresponding generally to sensory aphasia, which usually includes word-blindness and word-deafness; (3) the *expressive-receptive* group, where all language processes are extremely limited; and (4) the *amnesic*, in which the patients have difficulty in evoking such words as names of objects, acts, etc.

There appears to be agreement that aphasia is caused by cerebral lesions, but there is disagreement in matters of localization, and in the structural vs. the dynamic concept. The latter concept appears to be more widely held, rather than the former—the idea that the individual variations in the clinical manifestations of aphasia arise from minute variations in cerebral pathology.

Tests for aphasic patients have been devised by Head (1926) and even more extensively by Weisenburg and McBride (1935). The earlier test is aimed at determining to which of Head's four types the patient belongs; Travis (1931) has summarized in tabular form the various tests used by Head. The newer test is an extensive battery devised to show not only speech disorders but general behavioral differences which the authors believe are present. Travis (1933) remarks on the confusion clinicians find in apparently conflicting reports, but points out that inconstant response is really a most striking characteristic of aphasics.

Management of aphasia consists in reeducation; this should be started only some time after the onset of the pathology. Spontaneous improvement and relapses, as well as emotional difficulties resulting from the speech disorder, must be taken into consideration in any program for retraining.

Chapter XII

PERSONALITY PROBLEMS

THERE is a whole series of problems that are of importance to the psychoclinician, not because the behavior is socially unacceptable, but because they represent a lack of personal adjustment. We can take the greatest desideratum of personality development to be the molding of personal experiences into an integrated whole that functions harmoniously. In the ideal personality new experiences are accepted and fitted into sub-patterns of the whole; there are no conflicts between such sub-patterns. For example, the child, like the adult, has cores of interest about which experiences are organized—the parents, siblings, playmates, school, classmates, playground, Sunday school, etc., as well as the child himself. Experiences in such areas coalesce into attitudes and habitual behavior patterns, which in turn function interdependently so that there are broader attitudes and patterns in relation to the environment as a whole. Seldom, if ever, does such an ideal condition obtain.

In the course of every person's experiential history there are events which destroy or disturb the desired harmony. The child is not loved, he is criticized too severely, the parental core becomes predominant because of over-solicitude, a playground experience instills fear, jealousy colors sibling relations, and in a multitude of other ways the ideal balance is disturbed. As a result, the child's subsequent experiences are affected, they do not readily fit into his personality scheme. We may give these characteristics of the total integration the name attitudes. Attitudes result di a single experience or a series may illustrate the process in a child who exhibits an abnormal degree of fear. Up to a certain event in his life his experiences are not colored by a fear attitude. The certain event is a sudden attack by a strange dog while the child is alone. There is a fear reaction which subsequently modifies that sub-pattern centering on dogs or animals. But the animal was not the only factor in the stimulus situation—the road,

the house, the time of day, the child himself are all significant. The fear attitude may influence all of these areas. Each of these in turn has dependence upon, and association with, other areas; hence the attitude may spread. Eventually all of the child's experiences are colored with fear. Other attitudes such as jealousy, inferiority, insecurity, hopelessness, and the like, are similarly evolved and have similar effects.

It is now evident that environmental influences may have two major effects. First, they may influence the development of specific behavior patterns, which in turn may influence the child's future behavior. Environmental influences may also produce attitudes which in turn influence the personality development. While in themselves these attitudes are of significance for the child's future, they seldom have any serious social significance. But just as they do influence future interactions, so they may give rise to behavior that is socially undesirable. When this occurs it usually means that the child is actively or aggressively attempting to compensate for the influence of his attitude. He does things that make him feel less insecure or less inferior, things expressive of jealousy, or things to fill his loneliness. Behavior which is the direct result of such attitudes gives rise to what we have classed as indirect primary behavior problems. To superficial observation the activities here are the same as those exhibited in direct primary problems. Instead of attempting to compensate for the effect of attitudes, the child may give in to them, e.g., he withdraws because of his feeling of inferiority. His attitude is known only by his behavior, and although this behavior is not socially disturbing it also is to be placed in the indirect class.

It will be recalled that the outline classification of primary behavior problems given in Chapter VIII included as subsections of "personality problems" the aggressive and passive types of behavior analyzed in the foregoing paragraphs. Because the complaint and description of the actual behavior exhibited in both the conduct problems discussed in Chapters IX and X and the behavior resulting from compensation of attitudes are similar, there is no need to discuss them further. The passive acceptance of attitudes results in a quite different sort of behavior picture which we shall discuss in the present chapter and the one following.

Our selection and delimitation of specific personality disorders to be discussed is based upon a number of factors, of which clinical fre-

quency and significance, and traditional formulation are most important. These extended discussions do not include all of the terms listed in our outline classification, but they do include those most frequently met with and those which have been more extensively studied. Any isolation of problems of this sort must be artificial. The psychoclinician must constantly keep in mind that he is dealing with a child, not with a problem. The discussion of problems can only be suggestive, it can only furnish material that may be of value in the management of a child.

INFERIORITY

One of the most widespread attitudes that is potentially undesirable is belief in one's own inferiority. The problem of feelings of inferiority or of personal inadequacy—the inferiority complex or concept—has had a great deal of attention in the psychiatric and child psychology literature. The name most frequently associated with this subject is that of Alfred Adler. Originally a follower of Freud in the psychoanalytic movement, Adler soon seceded and attempted a systematic interpretation of behavior based on the motivating force of a “will to power,” i.e., an urge toward completeness and normalcy in physical development and in achievement. Physical defects, or at least supposed physical deficiencies, thwart this urge and, according to Adler (1917), result in the child's feeling inferior. Later Adler (1928) recognized that insistence on the etiologic importance of physical inferiority was limiting, and he therefore attributes the child's feeling of inferiority not only to physical abnormalities or inferiorities when compared to parents, but also to his uncertainty and lack of independence, his feeling of subordination to parents or older siblings, or similar psychosocial factors.

Recognition of one's inferior ability in various activities, such as skating, typing, writing poetry, or what not, is perfectly normal and usual. It is the starting point for improving one's skills and achievements. When, however, the individual feels inferior in most ways to most of the people with whom he comes into contact, and does not make, or appears to be incapable of making, any attempt to improve and compete, then his attitude is most unsatisfactory. It is the hopelessness of this latter attitude which is found frequently, and which constitutes a serious personality problem.

Feelings of inferiority are felt by probably everyone at some time

For many people they are transient and in no way—even desirably—affect the course of their life. In others, such feelings may result in longer or shorter periods of disturbance. In still others, they interfere with the development of adequate behavioral equipment. Conklin (1935) reports that in a class of 297 college students of both sexes 42 per cent reported, without hesitation, recollections of troubled periods arising from inferiority experiences. Gardner and Pierce (1929) report that 48 per cent of 512 college students immediately recalled such troubles. Reports of inferiority feelings occurring among problem children vary considerably. Paynter and Blanchard (1929) found that 19 per cent of 167 cases studied in a Los Angeles clinic exhibited such inferiority, while among 163 children from the Philadelphia Child Guidance Clinic there was 54 per cent. Ackerson (1931) reports that in only 6 per cent of the 5000 cases studied were there notations of inferiority feelings. The great discrepancies in these data probably rest upon individual biases in diagnosing inferiority. Such differences are easy enough to understand when one appreciates the variety in behavioral symptomatology.

Conklin (1935) lists no fewer than eleven "indications of the existence of inferiority disturbances," and Thom (1927) divides the behavioral signs in children into four outstanding groups. In considering the behavioral signs one is struck with the antitheses between certain of them. In a general way various symptoms may be grouped into two classes. The first of these includes certain forms of behavior that might quite reasonably be expected; the chief characteristic of this group is that the behavior tends to be socially negative and retiring. The second group, in decided contrast, consists of behavior which is socially positive and aggressive. If we combine the descriptions of Conklin and Thom and then classify them according to the above scheme we have the behavioral signs described in the following paragraphs which, when they are interpreted in the light of the child's experiential history, are of diagnostic significance.

The first group of signs that may be taken as suggestive of inferiority are those in which the behavior quite obviously indicates an attempt to avoid making too extensive social contacts.

1. Self-consciousness as shown by complaints of frequent embarrassment, fear of public appearances or public speaking, self-criticism, and comparison of self with others.

2. The complaint that the child "never had a chance" or that "other

people always get the breaks," that he never has any luck, or even extending so far that others are accused of deliberately thwarting his efforts. We can probably include here the complaints sometimes made by girls—that they wish they were boys and can see no advantages in being girls—and the occasional reverse of this complaint made by boys.

3 Lack of social presence, awkwardness, lack of poise, or any other behavior showing lack of the necessary skills in conforming to the social conventions.

4. Envy of the possessions or behavior of other persons, especially when such envious attitudes are so persistent as to suggest that they are substitutes for efforts to achieve.

5. Timidity and fear of attempting activities which are unfamiliar or in which the person recognizes his lack of skill. Such an attitude probably represents a chronic fear of failure; the individual would rather not try, than to try and fail.

6. Perfectionistic behavior—to use Conklin's term—which consists in repeating any activity because the person never feels that any given attempt is fully satisfactory. Writing letters again and again, going back to reassure himself that lights or fires are out even though there is every assurance that they are, doing school work over several times for fear of errors, and similar types of behavior frequently indicate inferiority attitudes.

7. Introversi^{on} or the tendency toward an introverted point of view. There seems to be reason to believe that introversion is frequently, if not always, a means of escaping from the difficulties imposed from a sense of inferiority. In a more extreme form of introversion the child may build up a desirable daydream or fantasy world in which he is no longer troubled by his attitude.

The behavior to be included in our second division of possible diagnostic signs does not in itself suggest that the individual feels inferior. This behavior may in general be thought of as the result of efforts to compensate for inferiority. The individual feels inferior, but instead of submitting to the feeling and behaving in any of the ways mentioned in the first group, he attempts to cover his attitudes by becoming aggressively evident to the social group. We may mention five rather frequent kinds of behavior that may be classed here.

1. Self-assertiveness and feelings of superiority are indicative. The individual pushes himself forward, talks or acts in a loud, attention-attracting manner, acts toward his associates in a superior, overbearing

manner. The rough bullying sort of child frequently is an example of this form of overcompensation

2 Bad temper may sometimes be motivated by inferiority. Decided anger reactions to teasing or other situations which are not usually provocative of emotional response are also significant here.

3 Compensatory activity of a more socially acceptable sort must also be considered. Strict application leading to ultimate superior achievement in almost any field of endeavor—art, music, science, commerce, even, possibly, in athletics—may be the means taken by some individuals to compensate for, or in some measure to overcome, their inferiority.

4. Thom (1927) says that ill-health or physical incapacity, especially when there are no pertinent organic findings, may be a means taken to avoid the difficulties imposed by inferiority.

5. Overt delinquency, even of a serious nature, may be a method of compensation.

Causes—Inferiority feelings develop only when the child, in comparing himself in any fashion—physically, mentally, socially—with people about him believes he is not their equal. In point of fact, he may not be, at least in the particular field of comparison. On the other hand, the child's belief may have no basis in objective circumstances. His ideas may be entirely self-developed, or they may originate and be fostered by the attitudes and remarks of parents or playmates.

Real or imagined physical disabilities are one of the important bases for feelings of inferiority. The child's world is an active one; running, jumping, throwing, climbing, skipping, and active play of all sorts occupy him when alone or in a group. The child who cannot do these things is held, and holds himself, an outsider. He sees himself as—and from the point of view of the norms of the group he is—deficient and inferior. According to the Adlerian School, the child compares himself with his parents and finds himself lacking in strength and prowess. With his limited experience and inadequate bases for comparison he sees in his physical deficiencies evidence of an inferiority too great to be overcome. He then refuses to try to compete and becomes withdrawn and disturbed by insecurity.

Comparison of mental or academic abilities may have a similar effect. It is doubtful if the child of significantly retarded mental ability recognizes his inferiority and is affected by it. However, children of average or near average ability, in competition with others who are supe-

rior, frequently feel that their efforts are hopeless. Thence, in turn, feelings of inferiority arise, resulting in behavior pictures such as we have already described

The child with social habits, e.g., colloquial speech, mannerisms, lack of cleanliness or similar behavior patterns, built up under one set of conditions may, when placed in a new social milieu, find these so different that his behavior is unfavorable when compared with that normal for the group. The other children tease him, attack him, or even avoid or ostracize him. Here again feelings of inferiority develop and attempts are made to withdraw from the disturbing circumstances.

The home environment is also frequently responsible for the development of inferiority. As we have seen, a mother's over-solicitude keeps the child from developing independence, that is, from learning his own ability to do things. Parental requirements of too great perfection make accomplishment almost impossible, and with repeated failures come feelings of inferiority.

We may summarize the reasons for inferiority by saying that this condition always depends upon the actual or supposed impossibility of the child's achieving what appears to him to be desirable. Diagnostic efforts must be directed toward discovering the source of the child's belief. Until this is done attempts at therapy will be sterile.

Treatment—Whether the condition at the basis of the child's inferiority is real or imaginary will govern the nature of therapy. If his physical condition does not allow participation in active play, efforts should be made to teach him to find satisfaction in other directions. Cooperation of all members of the family to this end is most desirable. This does not mean over-sympathizing or coddling the child. Rather, it is desirable that the family relations be as normal as possible, but that the group make a usual practice of engaging in some sort of activity in which the physically subnormal child may participate. Whether the cause is physical, mental, or social, the aim should be to remove the child from competition in which he has no hope of success.

If the reason for the inferiority is largely imaginary, treatment is more difficult. The first approach must be directly with the child. Through exhibition of confidence in him he must be led to establish confidence in himself. Honest praise for work well done or even for real effort cannot be used too much. However, insincere praise must be avoided. Opportunities for activity should at first be simple enough.

to assure a successful outcome. As the child gains confidence the tasks may become more difficult. In any case, the essential theory of treatment must be that the child shall have the opportunity of achieving so that he may be taught to recognize his own abilities, for only with the development of self-confidence can inferiority be overcome.

JEALOUSY

The usual dictionary definition, that jealousy is apprehensiveness of displacement by a rival, is a precise statement of the condition as we find it in children's problems. This definition indicates that jealousy involves fear, and in a general way suggests the reason for the fear. The rivalry at the basis of the etiology and the behavioral symptoms of the jealousy will vary from case to case. In addition to the emotional element of fear, jealousy may lead to chagrin, humiliation, or even shame. This effect is probably less true of children than it is of adults.

The symptomatology of jealousy is varied and inconstant. The conduct of the jealous child may exhibit almost every sort of undesirable behavior, from whining, crying, irritableness, to stealing, fighting, or intentional injury to the rival. Restlessness, eccentric, peculiar, unsocial, timid, lying, temper tantrums, inferiority feelings, high-strung, nervous, stubborn, are only some of the names used in describing the behavior of jealous children. Sewall (1931) reports the following frequency of symptoms among 39 jealous children

| | |
|--|----|
| Bodily attack | 26 |
| Ignore presence of sibling | 2 |
| Deny presence of sibling | 2 |
| No outward manifestation but definite personality change | 9 |

The behavior exhibited can usually be shown to be related to attempts to injure the interfering person or thing, or to attract attention which the child feels has been diverted from him but which is rightfully his. As with other personality and conduct problems, jealousy seldom occurs alone. In Table LXVI are shown data from Foster (1927) comparing the characteristic behavior of a group of jealous children and of a group of non-jealous children. It will be noticed that a number of traits occurred twice as frequently among the jealous children as among the non-jealous ones; these traits are: special attachment shown to parents, favoritism shown, cruelty, sleep disturbances, hyperactivity, leads playmates, and playing with other children. Furthermore, selfish-

TABLE LXVI — BEHAVIOR TRAITS OF JEALOUS AND NON-JEALOUS CHILDREN

| Traits | Jealous Children | Non-jealous Children |
|---------------------------------------|------------------|----------------------|
| Number of cases | 50 | 100 |
| | Per Cent | Per Cent |
| Personality traits | | |
| Negativistic | 8 | 10 |
| Lacking in confidence | 2 | 8 |
| Selfish | 42 | 27 |
| Domineering | 44 | 42 |
| Stubborn | 46 | 40 |
| Pugnacious | 62 | 43 |
| Given to temper tantrums | 60 | 53 |
| Demanding attention | 54 | 36 |
| Showing special attachment to parents | 28 | 10 |
| Showing favoritism | 32 | 13 |
| Cruel | 10 | 4 |
| Fearful | 36 | 24 |
| Given to daydreaming | 6 | 11 |
| Undesirable habits | | |
| Sleep disturbances | 64 | 24 |
| Capricious about food | 58 | 44 |
| Enuresis | 48 | 32 |
| Nail-biting | 8 | 5 |
| Thumb-sucking | 22 | 15 |
| Masturbation | 14 | 18 |
| Truancy | 8 | 6 |
| Lying | 8 | 7 |
| Stealing | 2 | 3 |
| Destructiveness | 18 | 10 |
| Hyperactivity | 34 | 10 |
| Play life | | |
| Leads playmates | 12 | 1 |
| Led by playmates | 2 | 0 |
| Plays alone | 16 | 16 |
| Plays with other children | 8 | 3 |

ness, pugnacity, and demanding attention were much greater among the jealous children although not to the point of being twice as frequent. On the other hand, only lacking confidence and daydreaming were two or more times as frequent among the non-jealous children. These data support, on the whole, the statement made earlier that the jealous child's behavior is characterized by a high degree of negativism.

Ross (1931), in a study of 175 children, 13 or 13 per cent, had jealousy of siblings as part of the record, found traits associated as follows:

| | Jealous | Non-jealous |
|----------------------|---------|-------------|
| Negativism | 27 | 17 |
| Fears | 16 | 11 |
| Sensitiveness | 15 | 15 |
| Inferiority feelings | 22 | 25 |
| Fatigability | 10 | 10 |
| Speech defects | 13 | 12 |
| Tiuaney from home | 12 | 13 |

These data do not exhibit a very decided contrast except in the case of negativism, by which is meant refusing to do, or doing the opposite of what is asked, i.e., a species of aggressive behavior

Certain other characteristics of jealous children as found by Ross in her rather extensive investigations may be mentioned here. There was a decrease in frequency of jealousy in children with increase in age; 23 per cent of children three and under exhibited jealousy, while only 3 per cent over sixteen years of age showed this behavior. Eighteen per cent of the oldest children in the family were jealous, 12 per cent of the intermediate children, and only 8 per cent of the youngest. There was a slight increase in jealousy with increase in I.Q. Smalley (1931) found that there was an increase in jealous attitudes with increase in differences of I.Q. between siblings.

Several studies have shown jealousy to be more frequent among girls. Four such studies report percentages as follows:

| | Percentages of | |
|----------------|----------------|-------|
| | Boys | Girls |
| Foster (1927) | 24 | 41 |
| Smalley (1931) | 39 | 43 |
| Sewall (1931) | 50 | 63 |
| Ross (1931) | 11 | 17 |

Causes—The etiology of jealousy always includes interference, usually by another person, with the ordinary conduct of the child's life. Attempts to avoid this interference, or to destroy it, constitute jealous behavior. Ordinary behavior with known privileges and opportunities, is more desired by the child, and if there is interference with such behavior it means insecurity and its resulting fear. Probably most often such fears are unjustified; but when they do develop, it is the child's attitude which controls the dynamics of the situation.

The situation most frequently mentioned as a reason for jealousy is the introduction of a sibling into the household without any warning to, or preparation of, the older child. Adler (1927) believes that jealousy is nearly universal and that it usually begins with the birth of a

younger child. There is reason to believe that this may not be as important a factor as has been supposed. For example, Watson (1930) definitely attempted to arouse jealousy of a newborn baby in an older sibling. The expected result did not appear. Sewall (1931) found that preparing the child for a baby's coming had no relation to the arousal of jealousy. Of 33 children who were prepared for a new baby, 19 became jealous and 14 did not, while of 37 children not prepared, 20 became jealous and 17 did not. As Mary C. Jones (1933) points out, it is not the babe in arms who is likely to provoke jealousy, but the older child who can more definitely interfere in his still older sibling's activities.

Favoritism and unfavorable comparison between siblings are probably a more significant cause of jealousy. Ross (1931) found that unfavorable comparisons were twice as frequent in the homes of jealous children as in the homes of non-jealous ones. Attitudes of favoritism in relation to the children are a part of the picture of defective discipline or familial

TABLE LXVII—CHARACTERISTICS OF THE SOCIAL ENVIRONMENTS OF JEALOUS AND NON-JEALOUS CHILDREN

| Characteristics | Jealous Children | Non-jealous Children |
|--|------------------|----------------------|
| Number of children | 50 | 100 |
| | Per Cent | Per Cent |
| Type of home | | |
| Lack of physical necessities | 8 | 12 |
| Lack of training and discipline | 68 | 62 |
| Lack of opportunities for play | 50 | 51 |
| Lack of opportunities for social relationships | 40 | 23 |
| Home divided by friction | 16 | 15 |
| Type of parents | | |
| Ignorant and irresponsible | 4 | 9 |
| Neurotic or "nervous" | 32 | 33 |
| Physically handicapped | 4 | 10 |
| Over-solicitous | 14 | 17 |
| Nagging | 6 | 7 |
| Relation between child and environment | | |
| Ruled by punishment | 56 | 23 |
| Ruled by fear | 6 | 4 |
| Ruled by stronger will | 4 | 3 |
| Ruled by emotional appeal | 2 | 2 |
| Teased by parents or relatives | 12 | 1 |
| Teased by siblings | 8 | 0 |
| Teased by playmates | 2 | 2 |

maladjustment In Table LXVII are given figures on homes and parents as found by Foster (1927) in contrasting jealous and non-jealous children. Here a lack of opportunity for social relationships, rule by punishment, and teasing by parents, relatives, or siblings apparently favor the development of jealousy. Sewall (1931) presents the following contrast based upon the type of discipline:

| | Discipline | |
|-------------|------------------------|----------------------------|
| | Consistent Per Cent | Non-consistent Per Cent |
| Jealous | 18 | 80 |
| Non-jealous | 82 | 20 |

Miss Sewall concludes that sex, intelligence, or warning of a coming baby has little effect on the development of jealousy; differential in age, number of children in family, and poverty may have some relation; "but the overwhelming cause of jealousy seems to be the lack of consistency in discipline, and this is closely linked to other factors that point to familial maladjustment."

Other possible situations that may be factors in the development of jealousy should be mentioned. During the illness of a child, the parents' attention may be diverted from the other children. If these other children are given responsibility and are allowed to help and show attention themselves, they feel they are playing a useful part. If they are neglected they may justly resent the neglect. Comparison of children by parents is unwise, and probably equally so are comparisons made by relatives and friends. When a visitor makes a fuss over the cute blond-headed girl of six, but neglects or even laughs at, in ever so friendly a fashion, the homely, freckled-faced boy of ten, we can hardly blame the brother for his feelings of jealousy.

While attention has been largely directed toward factors in the home that may result in jealous behavior, other social groups of which the child may be a part must not be neglected. Among older children, interference with the position held in school, on the playground, on the team, in clubs, with girls or with boys, or in any other socially significant activity may be, and frequently is, a cause for at least temporary jealousy.

Treatment—Before attempting to deal with jealousy in children, one question must be clearly answered. Does the child have a real objective reason for being jealous, or does his jealousy rest on his own beliefs which do not have a real basis in fact? If the first half of the question

can be answered in the affirmative, then primary therapeutic measures must be aimed at correcting the objective condition. Methods of parental discipline must be improved; the parents must be convinced that favoritism is to be avoided; older children must be prepared for the baby's coming, and so on. If the child is given an active, albeit unnecessary, part in caring for the baby there is perhaps less likelihood that he will resent the loss of attention taken from him and given to the newcomer. If there does exist an objective basis—in the home, school, or elsewhere—for the jealousy, for which there can be no correction, then the child must be taught to meet that situation.

When the reason for jealousy lies largely in the beliefs and attitudes of the child, we should expect to find further evidence of personality distortion. The therapeutic problem then is to straighten out the whole personality. The child must be shown that what he believes to be favoritism on the part of his parents or teachers, or what he believes is an injustice, is, in reality, not true. He must be shown the falsity of his supposed lack of prestige, or of his belief that he has been supplanted.

Here again prevention is better than correction. In the home it is easier to avoid situations that may cause jealousy than to retrain the jealous child. Children should be trained to share their possessions, to take turns, and to respect the rights and property of others. On the other hand, it is hardly fair always to expect the older child to give up things to the younger just because he is younger. On those occasions—and they do arise—when siblings are in disagreement over the possession of a toy, it is probably better to take the toy from both children, rather than risk the possibility of favoritism by deciding that one child should have it. This is not true, of course, if the parent has seen the whole development of the argument and can truthfully and fairly decide which child is at fault. However, great care must be taken that the parent does not see the faults of only one child and overlook those of another.

FEAR

Fear in some measure is a universal characteristic of all humans. In some individuals, however, it becomes a way of reacting that interferes with other adjustments. Under such circumstances we consider it a behavior problem, classed as a personality disorder, that appears frequently in clinic cases. Jones and Jones (1928) say, "Fear arises when

"we know enough to recognize the potential danger in a stimulus but have not advanced to the point of a complete comprehension and control of the changing situation." This succinct statement is not entirely true because it implies that all fear-provoking situations are *ipso facto* dangerous. If we modify it to the extent of saying that fear arises when the person *believes* the situation to be dangerous, it is more nearly universal in its application.

These same authors, in this study of children's reactions to snakes, found that definite fear behavior was not evident until after about four years of age. They point out that this appearance of fear might be explained by one of three hypotheses. The first, based on Watson's (with Morgan, 1917; with Rayner, 1920) theory that fear is merely the conditioning of an elemental response to startling stimuli, they eliminate because their children had lived all their lives in a controlled environment and had had no opportunity even to see a snake. The second theory which is much older and still widely held by many laymen, that the fear of snakes (and of many other stimuli) is innate, has no experimental or empirical data to support it. The third hypothesis, which they formulate, and which has been stated in the quotation above, appears to be the most satisfactory. We would entirely agree with them if fears were limited to those we might for convenience call "normal" or common. Learning by imitation or conditioning is probably always of importance in abnormal fears.

The fear reactions seen in children may be roughly classified into several types having somewhat distinct characteristics, although not entirely mutually exclusive.

1. *"Normal" Fears*.—The individual who exhibited no fear with its attendant avoiding reaction would be himself abnormal and certainly not well adjusted to his environment. Traffic dangers, occupational dangers, the dangers of unhygienic living, and a long list of similar environmental dangers must provoke fear responses if man is to exercise reasonable caution in avoiding them, and thus in avoiding possible injury and death from them. The Jones' statement quoted above applies to this sort of fear most aptly. In child training it is necessary to encourage the development of this type of fear habits.

2. *Common but Abnormal Fears*.—It is the building up of this second type of fear reaction that must be most scrupulously avoided in child training. There is no evidence that fears are inborn, furthermore, there is definite reason to believe that most fears are the result of train-

ing rather than experience. For example, Hagman (1932) found that the fears of pre-school children tended to correspond closely to the fears expressed by their mothers. Jersild, Markey, and Jersild (1933), in a monographic study of children's fears, found that over twenty per cent of those expressed by children from five to fifteen years of age were of ghosts, corpses, skeletons, death, and the supernatural. Not a single child reported any real experience or even imagined experience with such things. Eighteen per cent of the fears were of animals, but less than two per cent reported attacks by animals that might be expected to result in fear. About fourteen per cent reported fears of the dark, being alone, strange situations, and the like, but not over three per cent reported experiences of this sort. The conclusion must be that such fears arise through intentional or unintentional teaching by parents, playmates, or others. Threats of the bogey man and the policeman may be efficacious in discipline at a given moment, but they are potent sources of fears that hinder the child's development.

Fears of innocuous stimuli may be limited to certain classes, such as dogs, all animals, the dark, strangers, etc., or they may be extensive. In such cases the child lives in constant dread of his surroundings. This obviously makes any sort of normal, adequate adjustment impossible.

3 *Persistent Fright.*—Many situations may be temporarily frightening to children or even adults. Such frights may be quite normal or even desirable. However, occasionally such fright reactions may persist for days, weeks, or months, giving rise to specific fear reactions, and possibly even to phobias. A six-year-old girl was brought to the family physician because, for several weeks, she had exhibited fear reactions to noise. This fear extended even to such common noise as the motor of an automobile idling. Neither the girl nor the parents could account for the behavior. The physician talked the case over with me. It was obvious that there must be some reason for the fear, and therefore it seemed wise to insist that there was a story in the background, which was evidently forgotten. Acting upon my suggestion, the physician talked over the whole matter informally with the girl. In the course of this conversation she recalled an incident that had happened several weeks before. She had been playing with some other children, while on her way home from school, along a street that was being paved. Intent upon her game, she had been standing near, and with her back toward, a large road-making machine when it suddenly,

and with a great deal of noise, started to operate. This noise frightened her severely at the time. By the time she reached home the incident had been forgotten, or at least she did not tell her mother. In the conversation with the physician, she said that she felt this was the beginning of her fears. Following this interview the child's abnormal fear reactions to noise disappeared with unusual promptness.

4 *Phobias*.—This term is given to fears which are just as unwarranted as the preceding; but in addition the patient is fully aware of the unreasonableness of the reaction, and yet can do nothing about it. As phobias are usually classed as psychoneurotic behavior of a psychasthenic type we shall discuss them briefly in Chapter XIII.

5 *Anxiety Attacks*.—Richards (1932) describes anxiety attacks as appearing in the child with a tense, easily stimulated personality, living in an environment of strain and worry, and as following a dramatic but otherwise normal situation. The child may wake up in terror, with a full conviction that he is to die. A careless diagnosis of cardiac difficulty or tuberculosis or some other dreaded condition aggravates his anxiety and dread. The child and his parents direct attention to the supposed physical disorder, this is a further aggravation. As a result, the child may live for a long period in constant dread of death or permanent disability. Hypochondriacal fears and anxiety might also be included here. Anxiety of a similar type may be based upon an unfounded belief that a parent, a sibling, or other loved person may die or may leave. (See Case Numbers 43 and 44.)

6 *Simulation of Fear*.—It is not unknown for children to simulate fear as a means of securing something greatly desired or avoiding something disliked. Cases of children reporting feelings of fear of the dark in order to keep the parents from going out, of animals as a means of avoiding going to school, of strangers in order to secure attention, and other similar ones are found occasionally.

Etiology.—One can take it as axiomatic that fear reactions of any sort are based fundamentally upon the child's experiential history. The discovery of possible etiologic factors in that history is a necessary prelude to understanding or treatment. While the reasons for the development of fear reaction are as varied as the children who have the reaction, yet it is possible to group them into a few distinct types.

1. *Training*.—In a broad sense, training is probably the most important reason for children's fears. Within qualitative and quantitative limits, such training is desirable—children must learn to fear and thus

to avoid street traffic, fires, sharp knives, hot stoves, falling from high places, and many other similar things and situations. Such fears, when strong enough to insure care and caution, but not strong enough to cause abnormal avoidance, are necessary in environmental adjustments. With older children and adolescents, the development of prudence, caution, thrift, and some conservatism is desirable for successful living, even though fear is an important element of these traits. The fears of constructive importance must be learned by the child through experience and parental guidance. Such fears do not, however, enter into questions of behavior problems, for they are part of the normal, well-adjusted child's development.

Training, which is so desirable within limits, may go beyond those limits and result in the development of undesirable fear reactions. Over-cautious and over-solicitous parents may protect the child from not only real but imaginary dangers. M. W.'s (Case Number 27) mother would not let him have a workshop or play with tools because he might get cut. Yet just such a workshop was an important factor in this boy's rehabilitation, once the mother was shown the effect of her attitude. Training in undesirable fear patterns is probably seldom intentional—the parent has fears and by his or her actions affords the child a model to copy. Moreover, thoughtless mothers keep their children quiet and maintain discipline of a sort by threatening with the policeman, the bogey man, or other harmless or fictitious characters. This is as potent a means of educating in fear as any conceivable one.

2. Imitation.—We have just suggested the imitation of parental fears as a kind of training in fear. Imitation and the learning of fear reactions are not always of and from the parents. The child's playmates frequently have their pet fears which they expound at every opportunity. As the child imitates the speech and mannerisms of the parent, of the playmate, of the teachers, or of other persons, so he will imitate the fears and other emotional reactions of such persons. Hagman's work, mentioned earlier, shows quite clearly the place of imitation in the development of fears.

3 Experience.—The truism that the burned child dreads fire sums up all of the everyday observations of fears developing from direct, immediate experience. It is easy to understand the fear of the child who burns his finger on the hot stove, who falls out of the apple tree, who cuts himself on the kitchen knife, or who is in some way hurt. Such fears may be wholesome. They may, however, become too

extensive and interfere in adjustment. Thus the conditioning, through experience, of fear and therefore avoidance reactions to common dangerous stimuli is a necessary part of learning to adjust to such stimuli. The conditioning of fear responses to harmless stimuli, as Watson and Rayner (1920) first explored experimentally with rabbits and white rats, occurs with great frequency outside of laboratory situations. It is fear responses formed in this manner that cause troubles which are probably second in frequency only to those arising from training and imitation.

Single frightening experiences, as in the case of the little girl described above, may be the basis of fear reactions that persist for some time. Such experiences are often forgotten after a short time and no evidences of fear are shown until months or even years later when the person develops a phobia that may persist in spite of its irrationality.

The preceding discussion merely suggests some common general reasons for fear, for in each particular case the details of etiology will be unique. But in every case an intelligent interpretation of the life history will afford clues to pertinent etiologic factors which must form the basis for therapy.

Treatment.—The best remedy is prevention. If the child does not develop undesirable fears, then he will not have difficulties in adjustment because of them. Therefore, parents should not use fear as a means of discipline, they should eliminate their own irrational fears, they should avoid overcaution in relation to the child's play activities, they should be able to guide and help the child when he reports fears learned from playmates; in short, the parents must do all in their power to keep a child from learning fears that will hinder adjustment, while at the same time helping him to build reasonable and desirable fears in connection with the common dangers.

The ease and, to some extent, the success of active therapy for the elimination of fear depend upon the length of time the fear reactions have been evident, and upon the nature of the fear. Thom (1927) distinguishes between objective and subjective kinds. The former include fears of things or situations which have arisen directly from personal experience or indirectly from learning about them, or by imitation. The causes of such fears are usually obvious from the history. The subjective group includes those intangible fears, the causes of which are complex or so thoroughly forgotten that they are not at all evident in even a rather complete history. Frequently these fears are of such

things as death, the dark, or purely imaginary situations that the child can neither understand nor verbalize so that the adult can gain some insight into his feelings.

Therapy for the first type consists largely in helping the child understand his fear. Frightening episodes should be talked over with him soon after they have occurred so that he may see them merely as unusual occurrences about which there is no need to have further fear. For example, if a child were frightened by a dog barking and running after him, the parent might explain that the dog wanted to play when he saw the child running, that he meant no harm, that if the child had not run the dog would not have chased him, etc. In the case we have described on an earlier page, talking over with the girl the noise made by the machine, her fear of it, how similar it was to many noises she heard daily, and how the noise had not really harmed her was sufficient to dispel any further emotional response to noise.

If a child has a circumscribed fear of a definite object or class of objects it may be possible to eliminate it by careful reconditioning. This method has been most clearly described by Mary C. Jones (1924), who was able completely to eliminate a small boy's fear of furry objects. The *modus operandi* was to present a rabbit and food or candy in the same stimulus situation. At first the animal was kept in a cage on the far side of the room in which the child was eating. On successive days the rabbit was moved closer to the child until at last he had so completely lost fear of it that he would eat his meal with the rabbit on the table. The elimination of this fear spread to others, for, as the experimenter concludes, "By 'unconditioning' to the rabbit, Peter has apparently been helped to overcome many superfluous fears, some completely, some to a less degree. His tolerance for strange animals and unfamiliar situations has apparently increased." Essentially, this type of conditioning procedure is based on the fact that the child with the object of his fears un- it can be used only with tangible concrete objects that are feared.

The fear of intangible things such as ghosts, the dark, supernatural influences, death, and the like, is really fear in the mind of the child. To eliminate these fears is more difficult than eliminating fears of concrete objects. Much can be done by exploring the dark with children so that they can learn there is nothing to fear. Constructing or acting a ghost with the child's active cooperation, or in some other way making his idea of these intangibles more concrete and more associated

with what he experiences as a harmless object or situation, is a useful procedure.

Those vague, nebulous fears that Thom calls subjective are usually of fairly long standing, or, at least, the important etiologic factors have been forgotten. Because what are apparently minor occurrences in the life of a child may be of decided significance in the development of fears, parents should carefully watch their children and should so have their confidence that the child will volunteer information when some event or story has frightened him. With guidance from the parent, such occurrences need not lead to a pattern of fear. When such patterns are already established, therapy may take the form of helping the child to meet experientially the object of his fears with confidence in the parent or other therapist. In this way he may be brought to objectify his feelings and to recognize the fiction of fear that inheres in the stimulus. With older children, talking over the fear-provoking situation and the exploration of possible etiologic conditions in earlier life may be of help in reaching the same end.

DAYDREAMING

Daydreaming is frequently called by other names; brooding, reverie, building air castles, musing, being in a study, woolgathering, introspection, and similar terms have become commonplaces of the language. Conklin (1935) is of the opinion that adolescents are more particularly given to the sort of behavior denoted by these terms, although neither children nor adults are free from it. In some respects daydreaming and night dreaming are similar, in fact, Kimmins (1931) holds that the difference is simply one of degree. This can hardly be taken as completely true because night dreams, unless they are of the nature of night terrors or are somnambulistic, will never interfere with the individual's behavioral adjustment, while daydreams, unless carefully controlled, almost inevitably do.

Daydreaming, in greater or lesser degree, is extremely widespread. Smith (1904) found that only about one half of one per cent of 1475 subjects, ranging in age from seven years to adult, were unable to recall experience of daydreams. Conklin (1935) found that 69 per cent of 295 college students reported daydreaming frequently. Such high frequency of daydreaming as these studies indicate leads one to wonder whether this can be a problem at all since it is so com-

mon. The answer is that for most people daydreaming is infrequent, and even then it is a means to an end and not the end itself. Planning a novel, a strategy in war, a suspension bridge, a scientific experiment, a social movement, are all essentially daydreaming. They cannot be considered as behavior problems because such dreams are the bases of action. When, however, the novel is never written, or the bridge never built, because of the dreamer's pleasure in his phantasy, then there is interference with behavioral adjustment, and so a problem.

There is evidence that the nature of the content in the daydream changes with age. Green (1923) has ably analyzed children's daydreams, and has come to the conclusion that they mirror the child's development. Between three and ten years of age the dream contents have a major reference to self—the child gets the wanted toy, or mountainous cakes and seas of lemonade are his. In the pre-pubertal period, from ten to fourteen or so, the reference is mainly to a group attitude. Our basketball team wins the championship; our gang is victorious over the gang on the next block in an heroic struggle; our school, club, even family is dreamed about as accomplishing greatly desired ends. In this period also there occurs a seriously disturbing sort of phantasy—that of not belonging to one's family. Conklin (1920) and Lehrman (1927) have explored this foster-child phantasy and found that it occurs in children of all classes and takes a variety of forms. The child may believe himself a waif or an orphan, that he is really the stolen child of wealthy or royal parents, or that he is really the child of inferior parents. During adolescence and adulthood, the content takes the form of romantic episodes. Pruette (1924) found among over 300 adolescent girls that daydreams of personal success and romance occurred much more frequently than any other type. McKaye's (1929) study of 244 high school pupils substantiates the self-reference of girls' daydreams, but finds that boys' daydreams are more frequently about objects. This interesting sex difference requires further study.

What is the relation of daydreaming to developing personality? This question cannot be answered in general terms. In a given child the daydreaming may be a means of escaping from an unpleasant reality, in another it is merely a way of filling time. In other words, it may sometimes be a bad habit, while in other cases it is symptomatic of a more serious emotional disturbance. One cannot deal with

daydreaming, *per se*; one must always consider it in relation to the child who is behaving thus. Consideration of some common etiologic factors will help in understanding the varied nature of daydreaming.

Etiology—Daydreaming may be a direct result of boredom or of loneliness. Boredom may be the result of a drab, uneventful home which offers no stimulation to the child's interests or activities. In school, both the subnormal and the superior child may be bored—the one because he cannot grasp the work and hence makes no effort to, the other because the work is too simple to require effort. The monotony of the classroom technic of some teachers, or of a too rigid routine at home, makes the child's life dull. Ennui resulting from such situations is overcome by dreams, the satisfaction of activity, absent in real life, being found in the daydream.

Similarly, the only child, especially when isolated geographically or by parental demand, is bored and lonely. If real playmates are not available he peoples his play with imaginary ones. One six-year-old girl seen in our clinic had never had an opportunity to play with other children of her own age. As a substitute, she had formulated an elaborate world of imaginary playmates. This unreal world became so real to her that for a year after entering school she would not play with her schoolmates. Instead, she would sit away from the others and play with her daydream companions.

Excessive repression of the child as a means of punishment, or when a minimum of activity is looked upon as a desirable standard of behavior, is another frequent basis for daydreaming. When repressive measures are successful, the child becomes overtly quiet and finds activities in dreams. Unfortunately, the parent or teacher sees in the child's quietness the success of the repressive measures. They praise him and thus foster the continuance and firm establishment of the daydream as an important part of his behavior equipment.

While daydreaming arising from all of the foregoing is a serious interference to the child's possibility of development, there is one further cause that is probably more serious. This is frustration. In its simplest form, frustration of the child's activity is essentially the same as excessive repression. Don'ts, maternal fears, paternal commands, and unwise parental interference all take their toll of childish spontaneity. And the very essence of healthy childhood. Frustration in childhood and adolescence is apt to be much more com-

plex Here the daily experiences, friends, places and things seen, urges, social demands, are woven together to form hopes and aspirations. All too frequently social, economic, physical, or mental factors afford barriers to the attainment of such hopes Since activity in the desired direction is, or seems to be, impossible, the next best thing is to dream

Regardless of what is considered the most reasonable cause of daydreaming, the greatest evil is always this. When the dream has become an end in itself, rather than a means to an end, the person has started to lose his grasp upon reality It is here that the particular form of behavior becomes a problem, requiring definite attempts at correction

Treatment—Morgan (1934) has stated the core of all treatment of daydreaming in one sentence: "A child who has learned the thrill of real achievement will not spend an undue amount of time dreaming." With this dictum as the starting point, details of therapeutic procedure must be evolved for each individual case Parents must cooperate by avoiding too frequent intervention in, and restriction of, the child's play They must learn that constant quiet is neither normal nor desirable in the child. School teachers and administrators must make every effort to make school work interesting and suited to the child's ability The lonesome child must be allowed to have playmates, or, if the isolation is geographic, special efforts must be made to afford opportunity for some group activity

Talking over the daydreams with the child and then helping him to recognize their unreality is desirable, whereas talking to him about his daydreaming is not Sermons, admonitions, complaints serve to emphasize to the child his inadequate adjustment, and thus foster the daydream Sympathizing with his imaginings and helping him carry them into action will aid him in keeping daydreams as mere means to ends. However, successful therapy will require more than mere talking

Active measures to make environmental realities real to the child are necessary He must feel the pleasantness of accomplishment; he must treasure the rewards of successfully directed effort. His play, companions, school, work, amusements—all activities must keep him in touch with the actualities, the difficulties of his environing world. Useful tasks at home or school, trips, companionship of parents, the circus, an occasional movie, or any other activity that will require

attention to the outward world should be used. Monotonous mechanical tasks that foster abstraction and do not require either attention or effort must be scrupulously avoided. The aim of therapy is not to crush and destroy imagination, but to direct it, and to make it an incidental and useful part of the child's activity.

NEGATIVISM AND DISOBEDIENCE

A common problem which is closely related to disobedience or stubbornness, is negativism or contrariness. Bleuler (1912), who has discussed the theoretical and psychiatric aspects of this behavior, points out that it is really a complex in which all symptoms are similar in that the expected things are left undone, or exactly the contrary is done. This sort of reaction is often associated with the psychoses, especially dementia praecox. In the present connection we are concerned with negativism not as a psychotic symptom, but with its occurrence as a problem in less extreme aberrations of child behavior.

In one of the earliest studies in child psychology, Baldwin (1895), called attention to this type of behavior in children. Since then, and especially in connection with attempts to test young children, there has been considerable attention directed toward the problem. Binet and Simon (1916) pointed out, in the earliest days of psychological testing, that many children around three years of age "remain silent and will not reply even to a question which they understand." Levy and Tulchin (1923), in a study of nearly one thousand children at Better Baby Conferences being held at county fairs, found that complete resistance or opposition to the requirements of their test situations began as early as six months. The maximum frequency of completely negative children was found at 30 per cent of the children between 30 and 40 months of age. After this age, there was decrease, although they had not completely disappeared at 60 months. When the frequency of partially and completely resistant children was combined, the maximum for boys was at 30-35 months, and for girls at 18-23 months. These maxima were both approximately 50 per cent of the children at those ages. In a more intensive study of a smaller group Levy and Tulchin (1925) found the most intensive resistant behavior—crying, bodily and verbal reactions, etc—occurred at the same ages as the maxima in the earlier study. The findings of this study have been substantiated in all essentials by the work of Goodenough (1929), Nelson (1931), and Rust (1931), all of whom find

resistance in test situations occurring more frequently at the earlier ages Stutsman (1931), as we have earlier mentioned, has devised a method of compensating for this characteristic of pre-school children in her Merrill-Palmer Pre-School Scale.

Negative behavior in situations other than psychological testing has also been investigated. Reynolds (1928) set up a series of play situations utilizing blocks, in which she attempted to arouse negative behavior in a group of 229 children from one year and eleven months to five years and six months of age. Some of these children made no refusals, and even those with the highest negativism scores did not always refuse. The product-moment correlation between CA and negativism score was $-.53 \pm .03$, but between IQ and the score the r was only $-.09 \pm .04$. The negativism scores were unrelated to height-weight index, sex, or educational background. Caille (1933) found the maximum of resistance to playmates in a nursery school situation to occur close to the third birthday, in fact, three-year-olds showed twice as many cases of resistance as two-year-olds.

Ackerson (1931) reports that a definite maximum for contrariness or negativism occurred in the clinic case studies at four years for both boys and girls. Among girls there was also a definite rise at ages sixteen and seventeen. Hetzer (1926) observed a period in which a negative sort of behavior was evident in girls between eleven and thirteen years of age. In boys the same author (1927) found that a similar period occurred between fourteen and sixteen years. Hurlock and Sender (1930) also found such a period in girls at a similar age and indicated that it was possibly related to inferior surroundings.

Etymology—It is generally believed that practically all children go through a longer or shorter period, usually between two and four years of age, in which they exhibit negativistic behavior. This is thought to indicate the beginnings of the child's assertion of his own personality and his resentment of domination by others. He is struggling for selfhood, for independence; and the suggestions, directions, and commands of others are not welcome. Reynolds (1928) also points out that some cases of negative behavior are quite probably the result of a conflict between the child's activity and interests of the moment and the imposition of a parental command. In these and in other situations the refusal may appear to be more severe than it actually is. The child of two says, "No!" or "I won't," because of his limited vocabulary, the four-year-old softens the refusal by saying, "In a min-

ute" or "As soon as I finish." If parental reaction to this behavior is unsympathetic and shows misunderstanding, the possibility of continued contrariness, stubbornness, and negativism is great.

The pre-pubescent and adolescent negativism that has been reported has probably a somewhat different basis. Passive negativism, shown in apathy and avoidance as well as in simple refusal, may be the overt expression of feelings of inferiority and inadequacy, or it may be a protest against what the child believes are the injustices of parents, or his very circumstances of existence. Actively negative behavior, shown in doing the exact opposite, in aggressive refusal, and so on, is doubtless usually a protest against what the child conceives to be interference with his freedom of action. Both imply that there is conflict between the child's desires and self-conceived needs, and the requirements imposed by those in authority or by the social conventions.

Disobedience may be thought of as an extreme and consistent form of negative behavior. It is a frequent complaint made of children referred to clinics. While we cannot here discuss the general problems of obedience and its training, we shall point out some of the more frequent reasons for disobedience. All such reasons are based on essentially inefficient methods used by parents in their training of the child.

Inconsistency is perhaps the greatest evil. Today the six-year-old is allowed to ride his tricycle through the house, but tomorrow he is stopped because the floor has just been swept. On one occasion he is given a magazine from which to cut pictures, and at another time he is severely reprimanded because he cuts from a current magazine. Many similar circumstances will suggest themselves. The inconsistency is not in forbidding the activity the second time, but in forbidding without any explanation. One mother reacted to her three-year-old boy's adventures in crossing a forbidden street by whipping, threats of whipping, cajoling, coaxing, screaming, and even on occasion paying no attention. Such inconsistency makes it impossible for the child to learn what can and what cannot be done.

Inconsistency in discipline may also come about through *parental dissension*. The father is lenient with the child, the mother strict, or vice versa, the father interferes with the mother's punishment. There is no agreement between the parents on permissible actions, or on methods of dealing with acts not permitted. The child soon

learns to take advantage of such disagreement and he "plays one parent against the other." He is not disobedient, he merely obeys the parent who allows the activity in which he wishes to engage.

The normal pre-school period of negativism, discussed above, is an excellent starting point for disobedience. On the one hand, the parents argue with, preach at, or even whip the youngster for his apparent refusals to obey, and the child builds up a defense by avoiding obedience whenever possible. On the other hand, the parents meet the refusals with a complete "giving-in"—they cannot force the issue with the innocent, cute child! Here there appears to be a pious hope that the child will overcome the negativism by act of Providence or something of the sort, without any guidance from the parents. In either of these extreme positions the parents are setting the stage for future disobedience.

In any discipline, at any age, the same extremes of leniency and strictness make for disobedience. While parents who are too lenient may be willing to suffer the consequences of their training (or lack of it) in the undesirable and uncontrolled behavior of their child, that same child will ultimately find himself in situations that *must* be obeyed. Policemen, employers, companions, and the general public care nothing for the expression of "individuality," especially when such expression is at variance with the social good. The excessively stern parent may exact an outward obedience, but at the same time he builds up a smoldering, inhibited resentfulness and hate which almost inevitably make themselves felt in the child's attempts to adjust to the world.

Treatment—Any attempts to handle negativism and disobedience *must* have full understanding cooperation of parents or others who have immediate influence. If the child's attitudes and actions that are always basic, we cannot hope to accomplish anything as long as the wrong attitudes exist. We must first have a clear and complete picture of parental disciplinary measures. When these are of the kind known to be unsatisfactory, the parents must be taught better ways. Direct dealing with the child will center upon finding the reasons for his attitudes and behavior, and guiding him in forming more desirable ones with or, if necessary, without his parents' cooperation. Where emotional conflicts exist because of parental behavior these must, of course, be dealt with first.

Complaints of negativism in the pre-school child must be met with

assurances of the normalcy of such behavior, and the possible harm of unwise handling. Make as few demands on the child as possible, and when those made are met with refusal, disregard the refusals, "No!" and "I won't," while firmly but gently insisting upon his carrying out the necessary injunctions. Give him time to discover why and wherefores, and freely explain motives and reasons for commands. Normally, the period of pre-school negativism lasts only a few months or a year at most. This is not long (although it may seem endless to the parent), furthermore, how the child is dealt with at this time is of great significance in his later life.

Treatment of disobedience demands consistency in discipline, avoidance of extreme measures, and inter-parental cooperation. Disobedience frequently is justified because parents make unreasonable demands, often as an expression of an assumed, but unreasonable, authority. Children are not property, but human individuals, who must be helped in growing up. Parental demands must be within reason, or the child cannot be expected to obey. On occasion extreme measures may be justified. Withdrawal of privileges, isolation, unpleasant tasks, may be imposed as penalties for specific acts of disobedience. But the parent must not fail to reward for good behavior as well as to punish for bad.

Corporal punishment is taboo. The occasions when whipping is defensible are rare—but they do occur. Such punishments should not be methods of releasing the parents' anger, nor, on the other hand, should they be cold-blooded and mechanical. In one institution, whippings are still administered as punishments, although there is no evidence that they are effective. The method is the height of absurdity. An attendant requests permission from the director of the institution to whip the boy. If permission is granted the physician must first examine the boy and decide if his physical condition will allow whipping. After the physician passes him (often a day or two after the request), the boy is given a certain number of strokes by the attendant in the presence of witnesses. Following the beating he is again examined by the physician. What a travesty! Better far the honest sadism of Captain Bligh. Such formality in corporal punishment is seldom found in the home. Usually whippings are highly colored by parental anger, or they are given as a sort of duty, with the remark, "This hurts me as much (or more!) than it does you." Because of the lack of any demonstrated value in whippings, and be-

cause they are seldom commensurate with the offense, it is best to avoid them entirely

ILLUSTRATIVE CASES

In this chapter we shall follow the plan used in Chapter IX, of presenting several selected cases instead of trying to fit specific cases to the several problems discussed. The following cases emphasize the type of behavior classed as personality problems. It should be noted that a number of the cases presented in Chapters IX and X involve very definite personality factors, but the socially disturbing conduct was of first importance to the complainants. A comparison of this group of cases with those given earlier emphatically demonstrates the difficulties involved in classifying problems. We again present these cases without comment.

Case Number 41 (Rogers, 1933). Bobbie's early environment was such as to create a multitude of personality problems. At the age of seven, when he was removed from his own home, conditions were extremely bad. His mother's death released her at last from several years of suffering with cancer, and from the abuse, drunkenness, and vile language of Bobbie's father. He was a large man, a steady worker, but described as "over-sexed" and abusive. In addition to the four children of his marriage, he had two children by one of his step-daughters and he had been intimate with his other step-daughter and a number of other women.

Viewing Bobbie in his first two foster homes, one would have said that the prognosis was not at all good. He lived in a world of his own which no one else ever penetrated. He would sit and pick at a piece of string by the hour or vary this practice by biting his nails, picking at his clothes, or catching flies and insects and pulling them apart. He was indifferent to people and very quiet at school. He was fearful and suspicious of any attention paid to him. He lied when questioned about misbehavior. Toward sex matters he showed a peculiar interest, and he was removed from the foster home and brought to the clinic when it was discovered that he had tied a string so tightly around his older brother's genital organ that medical attention was required. When one added to these behavior symptoms the fact that Bobbie was taking treatment for congenital syphilis, the future looked dark indeed.

A number of clinic interviews at this time did not reveal any encouraging factors in the situation. This eight-year-old lad was as

repressed and inhibited a youngster as one would find anywhere. In spite of friendly contacts, he simply refused to talk about any but superficial topics. Questions about his earlier home life or about sex matters brought a resolute silence, accompanied by hangdog looks. The psychologist summarized Bobbie's needs by describing him as "a boy who is badly in need of someone, preferably a foster parent, who can draw him out and give him understanding." It was felt that Bobbie's repressed attitude must be somewhat overcome before his mental conflicts could be dealt with at all.

It was in carrying out the clinic recommendations that Bobbie was placed in the Thompson home. At first he was shy and reserved. Gradually he began to blossom out. He actually seemed happy; he acquired self-confidence, and, after a time, he even became confidential, telling the foster mother something of his earlier unhappiness at home. There were very few behavior difficulties. One or two violent temper storms were quickly and effectively settled with a dash of cold water. Bobbie learned to play with the other boys so successfully that two years after placement it was reported that he was nearly always the leader in games, although he was neither oldest, largest, nor brightest of the boys. Interestingly enough, there has never been any evidence of unwholesome sex activities of any kind. Bobbie in this home has shown honesty and trustworthiness to a high degree. Indeed, for a period of a few months Bobbie became rather domineering in his attitude toward the other boys, because he felt that he was doing all the important errands and tasks for the foster mother. This was easily handled. The total picture of Bobbie's behavior during the last few months in the foster home is that of a thoroughly normal, active boy, well thought of at home and at school.

One significant thing was noted during the first two years of his stay. Although expressing interest at times in his family and his father, Bobbie would "shut up like a clam" on the occasions of his father's infrequent visits, and would withdraw into himself in a way highly reminiscent of his early behavior. Since that time the father has not visited him and we do not know how he might react now.

Case Number 42 (Ebaugh, 1931). E. C., a white boy of fifteen. Second oldest in family of four. Average intelligence: I.Q. 99. At present a sophomore in high school.

Problem as referred Considered as a behavior problem because of the situation existing between himself and his stepfather. The stepfather had many complaints, such as patient's attempted intercourse with his daughter (patient's half-sister) and failure to get along with

the stepfather, which included an antagonistic attitude toward him and unwillingness to cooperate in the home. The stepfather had written to both school teacher and assistant district attorney, advising that patient be prosecuted for his sex act. Enuresis was considered a problem from a health standpoint.

Evolution of problem Ten years ago (July 10, 1920), mother of patient remarried, following the death of her husband (October 10, 1916). There had been two children by the first marriage, the patient being the younger of two boys. The stepfather has never gotten along well with either boy, especially the younger. His treatment has been very inhumane; he has beaten both boys a great deal and because of this the older boy left home two years ago. The stepfather wanted children of his own and when his first child died at the age of six months, he became very despondent and his treatment of his two stepsons became more unbearable. However, his attitude has changed little following the birth of his two living children. He has objected to his stepsons' participation in athletics in school and has not allowed any play about the home. Work is the only activity allowed. The patient has to sneak away from home in order to play and on returning usually has to stand a good thrashing. The father is desirous that the patient finish high school and then go to college in order that he may become a "big business man." On many occasions he has refused to allow either boy to go to school parties and entertainments. Occasionally the patient has been allowed to go to parties, and when this has happened, his enuresis has disappeared. This has produced rejoicing on the boy's part. At other times the patient becomes very nervous and uncertain about things and bed-wetting presents itself, much to the boy's chagrin.

Four months prior to the clinic visit, the patient attempted intercourse with his half-sister, five years old. When the father found out about this, he became very angry and, while attempting to control his temper, criticized the boy severely. There had been no previous sex instruction and now the stepfather attempted to make a brief explanation, but under his emotional strain did a poor job of it. The boy was taken to a general practitioner—one not in good standing with the medical society—who also attempted to tell him something of sex. In this talk he was told that if he continued masturbation, which he had freely admitted, he would in all probability develop a mental disorder.

The stepfather is a hard-working, economical Scotchman, owner of 162 acres of farm land in a very prosperous community. He never had a chance at education and now wants to give his two stepchildren

and his own two children all the benefits denied him. In return he expects absolute obedience from all, and when this is not forthcoming, loses his temper and beats the children. His wife has been instructed to keep her hands off and has been threatened with the same type of treatment. The father has patterned his action after that of his own father who was very strict and had a very violent temper. The paternal grandmother states that all four of her boys practiced self-abuse and quarreled a great deal. The paternal grandfather drank and had a temper. The patient was born in their home and lived there for five years, until the death of his father.

The mother's health was good during pregnancy. Delivery was normal. Baby was breast fed. Teeth at six months. Child walked at one year and talked at one year. Sphincter control was established at eleven months. Health has been good, with the exception of the usual childhood diseases. In May, 1930, was noted to be seven and one-half pounds underweight.

Physical examination Essentially negative.

Psychiatric examination The patient's attitude was considered good during the interview, as he entered very well into the spirit of the examination. He was very willing to talk over his troubles. He appeared surprised when no great importance was placed on his statement, "You know I raped my sister and that is the reason I am here. A doctor told me I might go insane. I have worried a great deal over this. It has caused me trouble in school. I daydream a great deal, thinking about things that might happen to me."

He felt that he was the equal of others at school, but at home he really felt very inferior because of the things his stepfather said to him, telling him that he was no good and criticizing every action. He began to feel that maybe he wasn't any good. At school he did take part in activities and loved to clown for the younger children. He is liked by all the children at school, even though he is considered by some a bit shy and self-conscious. He gets along with children of his own age. He feels that the main trouble at the present time is between his father and himself, and that the father is greatly at fault. At school he has made a good adjustment with the pupils and teachers. Teacher says he is a bit slow at times and hard to draw out of his dreams.

He feels that he must stay in the family to protect his mother, but has told her that if he was making it harder for her, he would leave home. He gets along very well with all members of the family save his stepfather.

He has been greatly concerned over the episode with his half-sister

In his daydreams he has pictured himself away from home, where things might be a good deal more congenial and happier. He has wanted to take his mother with him. There is no history of any night dreams. He desires to finish high school and go to college, perhaps to agricultural college.

Formulation: We are here dealing with an adolescent boy who is attempting to make his adjustment to life in face of a great deal of difficulty in the home. Marked abuse on the part of the father has made the boy feel very antagonistic and inferior. The relationship between the boy and the problems presented by the father's attitude can readily be understood.

It was felt that this case represented a very important problem which centered around the stepfather and his attitude. As the stepfather had received little education, his one desire in life was to give his children the things he had missed. In his attempt to accomplish this, he had stressed school work to the exclusion of all other interests. He became very resentful whenever the boys had any other desires and objected bitterly to their attempts to fulfill their own wishes. Gradually he had become more rigid in his attitude toward the children and felt that they were not appreciative of his efforts. On this basis he had become critical and abusive in his relationships with them. The oldest boy refused to tolerate such an attitude and emancipated himself by leaving home, while the patient felt that he could not do this because of his feeling of responsibility for his mother. The father accepted our explanation of the difficulty, and was very cooperative in further psychiatric interviews, which resulted in the development of insight into the problem.

The main recommendation made in regard to the patient was that he leave home and secure work for room and board while continuing school. This was easily accomplished. Further treatment recommended dealt with explanations of sex phenomena to the patient and attempts to desensitize him to his feelings of insecurity and inferiority. This gradually resulted in improvement in proportion to the change in attitude assumed toward the boy and his problem. Follow-up reports one year later indicate continued adjustment.

Case Number 43 (Richards, 1923) This boy of nine was brought to our dispensary in November, 1920. He is the fifth in a family of six boys. The parents are Russian Jews who came to this country shortly after marriage and, in spite of rearing a large family, have managed to establish themselves in a small, but fairly well-paying,

tailor's business. The four older boys went through the lower grades and are working, so that the family budget is comfortable.

The parents describe themselves independently as "nervous" and "not so strong," but in spite of constant complaining, there has been no real incapacitation. The father of late years has been seeking doctors and patent medicines for "bladder trouble." The mother has been a frequent visitor in various departments of our Hopkins dispensary, where "palpitation" has figured largely in her complaints and "neurasthenia" in her diagnoses. The older boys glided through school and family training without acquiring the evidence of much supervision or direction. Each left school and got work as soon as he was eligible, proclaiming his emancipation from authority in ways that made him a desperate hero to his younger brothers. The parents attempted to deal with this insubordination by loud arguments, empty threats, tears, and supplications, so that one could not cross the family threshold without being definitely conscious of a spirit of contention.

The patient's personal history was relatively uneventful. There has been some enuresis and night terrors in his background, but their occurrence had either been too transient or too slight to elicit a voluntary recital from the parents. His school career included a repetition of the first grade, the result of poor attention, mischievousness, and irregular attendance. When out of school, the child played constantly on the street. He was in the habit of going to the movies almost daily, which made his bedtime about 10 P.M. As to personal traits, one could say that the patient was spoiled, but not disagreeably so. He got his own way at home by impertinence and sly disobedience, at school by clever affability, and on the street by "scrapping." In short, his behavior reactions were so like those of his brothers and the neighborhood boys that neither parents nor teachers noticed anything remarkable about him until the onset of the complaints for which he was brought to our dispensary. The story was that three weeks before, while in school, he had felt faint, dizzy, weak, his extremities had grown cold, his heart had beat fast "like a hammer," and he had thought that he was going to faint. The feeling had passed off in a few minutes. After a second attack in school several days later, his mother had been obliged to stay with him day and night for fear that he was going to have another spell. Her impatience with this tyranny and her fears for the child's health were reflected in the remark, "All day he hollers, 'Mother, I die!' and keeps his hand on his heart."

Examination in the pediatric dispensary was negative. Questioning as to the events that preceded these attacks brought out the fact that the day before the first "spell" in school, the teacher had given a

health talk to the children, and stressed the importance of care in eating fruit lest the seeds and pits "go down the wrong way and kill you." In some way the child got the notion that if an apple seed slipped down his trachea instead of his esophagus, it would be carried by the circulation to his heart and kill him. Childlike, he had not confided his fears to any one. The wisdom of his conduct did not seem so questionable when, later on, the physician began to explain the situation to the mother and elicit her cooperation. Her first impulse, on hearing the story, was to punish the child for being so "dumb" and "crazy" as to cause her all this trouble.

Therapeutic adjustment. The patient was assured as to the impossibility of his fears being realized, and the parents were urged to ignore his complaints without ridicule, teasing, or punishment. The teacher also was more than eager to obtain and act on a new point of view. The patient had no further attacks of palpitation and faintness, but did show a tendency to cling to his mother, especially before going to sleep at night. The situation was not difficult to handle, however, and in a month's time the fears and complaining reactions were things of the past. He is now in the fifth grade, and his school life seems to be running more smoothly—perhaps as a result of increased interest and attention on the part of his teachers.

With the adjustment of the immediate child problem, our attention turned to the family group as a whole. The first step was a settling of the somatic status of its complaining members. The father was persuaded to go through the genito-urinary clinic of our dispensary. His examination revealed no abnormal condition, and he seems to have accepted this reassurance since he has not gone to any other physician for treatment and advice up to the present time. The oldest son was having friction with his employer for the amount of work put upon him. He was tense and irritable, and complained of fatigue. A thorough examination in the medical dispensary revealed a double heart murmur and myocardial insufficiency. Although there was no decompensation, his job did involve too much strain. The employer was quite willing to meet us halfway in the matter, and other work, better suited to the man's condition, was found, and has proved a success. The clearing up of this situation with the oldest son has done much to bring peace to the family circle.

The patient's mother still continues to complain, but without the drive of real worry. Her utterances on health topics give the impression of being merely social commonplaces.

Case Number 44 (Ebaugh and Lloyd, 1927). Dorothy was brought

to the clinic as a physical problem. She had a severe attack of chorea in 1923. After the choreiform movements ceased, she developed spells in which she would become stiff for an hour or more at a time. These attacks continued for several months. Most of the day was spent in crying or screaming. She improved and returned to school, but every trifling detail upset her and it was advised that she remain at home. Her mother had been giving her medicine for a week in order to get her quiet enough to bring to the clinic.

Dorothy is nine years old, but physically gives the appearance of a child of six. She is fourteen pounds underweight. When spoken to, she screamed and cried and jumped up and down, stamping her feet and shaking her hands, all the while holding her breath. She had to be carried bodily into an examining room. The mother was equally hysterical, crying, "Oh, doctor, this will make my Dorothy worse!"

It was impossible to make a psychological examination, but an easy matter to secure an enlightening history, as no less than twelve people waylaid the worker to tell her that Dorothy couldn't live long after "the way the father had gone." "In August she had a fainting attack which probably was tuberculosis of the brain." The father had died of tuberculosis, and Dorothy unfortunately had seen him having hemorrhages. Whenever she had a cough, she would become hysterical.

It was recommended that Dorothy be brought into the hospital for observation. The mother immediately gave her consent, but a lifelong friend suggested that she would never forgive herself if Dorothy should die away from home. The mother accepted the friend's recommendation, and we were able to be of no further service to Dorothy.

After the clinic left the village, Dorothy grew progressively worse and was finally brought to the hospital for observation. The family had been living in a town of four hundred people. After the father's death from tuberculosis, the mother's parents were able to care for the children during the day and the mother opened a beauty parlor in town to earn a living. Dorothy had always been a thin, frail-looking child, but had never been sick. When it was known that the father was tubercular, the neighbors began stopping Dorothy on the street and sighing, "Just like her father! Sure to go the same way." The result was that the child became hysterical. Her fears were progressive, and at the time she was brought into the hospital she had developed choreiform movements and was bedfast.

After two months of hospital care, Dorothy was as calm as any other child on the ward. She had, however, gained little weight, although a diet and rest routine had been followed. The mother had excellent insight and later came to the clinic as a patient. She stated

that after three years of widowhood, she had been severely criticized for attending a dance. Dorothy is now in a children's play school, to remain there until the mother can secure employment in another community.

Case Number 45 (Dexter, 1928). Robert is thirteen years and four months of age, has average intelligence, and is in the eighth grade. He was referred by his teacher because of his quiet manner and his tendency to daydream. In the interview with the social worker, the mother spoke of her concern over his poor work and her regret that he had no friends, but otherwise she was aware of no difficulty.

The boy's father is a skilled worker, making a comfortable income. He is sociable, enjoying his lodge meetings and an occasional evening of pool. He prefers a younger son who is like him in personality and whose part he invariably takes against Robert.

Because of the father's attitude, the mother defends Robert, but is unaware of her partiality for him. As a girl, she wanted to join an Episcopalian sisterhood, but her mother would not allow it. She found marriage disappointing and discovered her only solace in innumerable church activities. Throughout the interview, she was inclined to resist the visiting teacher's assumption that Robert was unadjusted. When finally pressed as to the boy's recreation, she arose and, after exacting a promise that the social worker would not tell Robert, opened the door into a small adjoining room. In it the boy had constructed a chapel, with two small pews and an altar decorated by a crucifix, candles, and an altar cloth he had himself embroidered. Here he spends most of his time alone, conducting church services. He intends to become a minister. His mother believes that she is not responsible for his religious fervor, but at the same time recounts an experience that occurred a few months before his birth, when she vowed to dedicate the child to the church if God would induce her husband to cease scoffing at religion. She considers that her prayer was answered and that the child has naturally turned to the church.

When the social worker pointed out the possibility that her ambition for the boy would not be realized unless he learned to make social contacts, she agreed to urge him to spend more time playing outdoors with the boys and gave her consent to his joining the harmonica club at school. However, when the visiting teacher suggested that the chapel be dismantled on the pretext of her need for a sewing room, she objected that nothing would be accomplished, for Robert would only reconstruct the chapel in his own room. The harmonica club proved ineffective, for although Robert attended regularly, he

took no interest in the other boys and used the harmonica at home to play hymns

Since numerous attempts at relieving the mother's identification with the boy and the father's rejection of him were unsuccessful, and the child himself remained inaccessible to any discussion of his problem, the social worker turned to the minister and the family physician. The latter had known Robert since birth, and was amazed at what was going on in the home. He readily offered his cooperation and agreed to urge outdoor activity for the sake of the boy's health. The minister had wondered at Robert's intense enthusiasm, but was unaware of the lengths to which it had carried him. He exerted his influence to discourage the boy's absorbing interest and undertook to discuss his problem with the mother. He also tried to foster a friendship between his son and Robert.

Five months of treatment, for the most part carried on indirectly through the teacher, minister, physician, appear to have accomplished little more than a superficial change in the original situation. The parents' attitudes are too firmly fixed, and the boy's behavior is too deeply entrenched, to give way to the healthier family relationships that are necessary to free the boy from his emotional entanglement.

Case Number 46 (Leahy, 1926) Of decided importance is the teacher's attitude in the case of Richard, a nine-year-old boy who was doing unsatisfactory work in the third grade and who had failed to be promoted the semester before. He had not finished a single arithmetic paper for the semester and he was extremely slow in all his reactions. He was absent-minded and at times seemed completely oblivious of the persons or things about him. He would rise and walk aimlessly around the room in the middle of an interesting story. Parents feared a mental break because there was insanity in the family background. Clinical study revealed the fact that Richard was a boy of superior ability and that he had an absorbing interest in knights. He drew one in perfect detail and executed a complete replica of a feudal castle in the sandbox at the clinic as he waited for the examiner. He was sensitive about his slight build and volunteered that "any kid in school can lick me." He read, lived, and dreamed of knights, and from them he was getting the color, self-expression, and satisfaction that he had not been able to secure otherwise. The task of the social worker was evident when she reported the findings to the teacher, who, with a disgusted air, announced that "it made no difference; everything with Richard was knights." She did not see the tremendous motivating power of this interest. She

did not see that it had the danger of a growing escape from reality and that her attitude was enhancing the likelihood of the boy's pursuing it

Next to the home—and I sometimes believe more than the home—the school exercises a profound influence on the child's personality. And in this drama the teacher is not the least actor. If she is understanding and sympathetic, she can do an infinite amount in the way of making a child happy. No other person has such an excellent opportunity to draw out the sensitive, seclusive child, no one has such an excellent opportunity to put the ruthlessly aggressive child into situations that demand control and sportsmanship.

Chapter XIII

PSYCHONEUROSES AND PSYCHOSES

As we have pointed out in an earlier chapter, psychoneurotic or psychotic conditions may be looked upon as the most extreme forms of what we have called indirect primary behavior problems, or, to use the commoner term, personality difficulties. Thus, their essential characteristics are subjectivity and the extremely important part played by the emotional and attitudinal aspects of the individual. While classification and diagnosis of these conditions rest largely upon symptomatology, the symptomatology gives neither insight into etiology, nor a basis for therapy.

A survey of the entries classed as children's neuroses in such bibliographies as the *Quarterly Cumulative Index Medicus* clearly shows that there is no sharp line of demarcation between what we have termed personality problems—or, for that matter, some conduct problems—and the psychoneuroses. Any attempt to force a sharp division is unwise and unnecessary. Certain forms of behavior presently to be described have been isolated and named. These have in common a substitutive character; they represent methods of escape from, or avoidance of, unpleasant situations. As Adolf Meyer and his school (Kanner, 1935; Strecker and Ebaugh, 1935) point out, they are part-dysfunctions of the personality. While the behavior may interfere with entirely adequate adjustment, the person's contact with his environment remains real and relatively intact. The following three major types of psychoneuroses are conventionally isolated: hysteria, psychasthenia, and neurasthenia. Various authors make further divisions to which names such as anxiety neuroses, compulsion neuroses, hypochondriasis, etc., are given.

The psychoses are personality disturbances of so severe a nature that not only is the person's behavior affected, but he is quite decidedly out of touch with environmental realities. Boundaries between the psychoneuroses and the psychoses are no clearer than those between the personality difficulties and the psychoneuroses. In fact, from the

mildest fear or the simplest daydream, indirect primary behavior problems extend in an unbroken series—not linear perhaps, but none the less real—to the most extreme disorientation of the catatonic stupor or the severe maniacal attack. The conventional classes of psychoses are shown by the names in the first column in Table LXVIII. We shall limit our discussion to three of these, viz, schizophrenia or dementia praecox, manic-depressive psychosis, and juvenile paresis.

PSYCHONEUROSES

All authorities are agreed that psychoneurotic complaints comprise a large share of all the problems met with in general medical practice—although no claim is made that they are all recognized as such. As these disorders are seldom severe, the patients do not find their way into mental hospitals, consequently this source of statistics is of little avail. In Table LXVIII, we find that about three per cent of all admissions to state hospitals under fifteen years of age, and between fifteen to nineteen years, were for psychoneuroses. These represent a rate of 0.1 per 100,000 of the general population under fifteen years of age, and about 1.0 per 100,000 for ages fifteen to nineteen. Wilcox (1932) reports 55 cases out of 5500 admissions to the Babies' Hospital, in which behavior problems and neuroses were of major importance. In his private practice, there were 96 such cases from a total group of 1100. As there is no distinction made here between behavior problems and psychoneuroses, these figures are probably more indicative of the former than of the latter. Haines (1931-32) reports an incidence of psychoneurotic conditions of 0.3 per cent among some 52,000 public school children. At the James Whitcomb Riley Hospital for Children approximately 6600 different children were admitted between April, 1934, and March, 1936. Of this number, there were eight for whom the final diagnosis was hysteria and two for whom it was neurasthenia. Among approximately 30,000 children admitted between September, 1924, and March, 1936, 38 cases were diagnosed as hysteria and nine as neurasthenia. In both the smaller and more inclusive groups the incidence of hysteria was 0.12 per cent and of neurasthenia 0.03 per cent, or a combined incidence of 0.157 per cent. While all of these data are entirely inadequate they do demonstrate that the number of children whose problem can be classified as a psychoneurosis is very small.

As we have said, the conventional psychiatric classification of the

psychoneuroses includes three and sometimes four divisions. hysteria, neurasthenia, psychasthenia, and sometimes anxiety neuroses. Psychasthenia is at times made to include anxiety neuroses, together with the conventional divisions: phobias, obsessions, and compulsions. In adults these divisions are fairly distinct, but, as Robin (1932) points out, in children the boundary between psychasthenia and neurasthenia is not clear cut. This confusion of two of the conventional types, together with the difficulty of distinguishing between personality problems and the psychoneuroses as a group, makes any attempt to discuss the various types somewhat artificial. However, if the artificiality of the divisions is kept in mind, descriptions of conventional types will be serviceable.

HYSTERIA

Hysteria is a behavior pattern characterized by (1) the dissociation of simple or complex functions from the ordinary personality integration; (2) the basing of the symptoms upon an affectively colored and only partially forgotten conflict situation; (3) the fact that the symptoms are substitutive in the sense that they are usually somatic manifestations making possible escape from the affective conflict. In children, hysteria is frequently, although not always, monosymptomatic, i.e., but one symptom is evident at one time. The symptom is often sufficiently spectacular as to cause serious concern on the part of layman and physician alike.

The estimates of frequency of hysteria in children depend upon the symptomatic criteria used. The lay public and some professional workers tend to call any type of emotional instability, especially emotional outbursts, signs of hysteria. Such extension is not in accord with the best modern usage, which limits the term to rather specific kinds of behavior having characteristic experiential histories. The broad usage results in large numbers of cases being diagnosed as hysteria, whereas with the narrow usage few cases are so diagnosed.

As an illustration of the difference of opinion, we may refer to two fairly recent papers. Heuyer (1929) concludes a discussion of hysteria in children thus: "*En résumé, je crois que c'est avec la plus grande prudence qu'il faut porter le diagnostic d'accidents hystériques chez l'enfant. Actuellement on n'en voit plus guère.*" Tixier (1930) expresses surprise at "my friend Heuyer's" statement and, after discussing three cases, points out that "*Il est bien évident que les mani-*

festations de l'hystérie infantile ne sont pas d'observation très courante, mais on s'exposerait à de graves erreurs de diagnostic si, sous prétexte d'une excessive rareté le médecin spécialisé n'avait pas toujours présente à l'esprit la possibilité de son existence."

Differences in diagnostic criteria probably also account for the age ranges reported. Scheffield (1898) reported what he called hysteria in a child of only one and a half years of age. Abt (1915) described a case of hysterical blindness in a child of three which occurred after the girl had been reprimanded by her mother. Pichon (1933) says that hysteria may occur as early as four years of age. Cases at such very young ages are certainly a great deal rarer than in later childhood and adolescence. We have no data on this point, but the cases used by Kanner (1935) are suggestive. Of the eight illustrative cases he presents, six were over twelve years of age, the other two were six and seven years old.

Symptomatology—Hysteria may simulate almost any symptom or condition that the human organism is capable of having. Sensory defects, motor disturbances, general somatic symptoms, memory loss, and distorted perception represent only the major types of symptoms that are found. Physical symptoms of hysteria can be distinguished from true organic disorders by the absence of physical findings in examination.

Sensory disturbances may occur in any one of the senses and in any degree. Increased or decreased sensitivity, irregular sensitivity, or a complete anesthesia are all found. Cutaneous sensory disturbances usually follow a sensory distribution in which the hypersensitive or anesthetic area is sharply delimited at boundaries having no relation to the anatomic distribution of the nerves. Such areas are frequently changeable and may be modified by suggestion. In the special senses, complete blindness, scotoma, or concentric diminution of the visual fields occurs. Totally blind hysterics commonly avoid obstacles in their path and sometimes recognize certain objects when they are presented visually. The eye reflexes and movements usually are not affected. Partial deafness, or deafness limited to certain situations, e.g., the classroom, is more common than total hysterical deafness.

Motor disturbances include paralyses of all types, tremors and other involuntary movements, contractures and abnormal posture. The paralyses, like cutaneous sensory disturbances, usually follow the lay idea of a functional part like an arm or a leg, rather than being in

accord with segmental innervation. *Asasia abasia* i.e. the inability to walk or stand although there is no loss of mobility when the child is lying down, is a common hysterical symptom. Tremors of hand, arm, finger, or other part, head-bobbing and nodding, head rotation, choreiform movements, all occur, and they are not of the type or distribution that would be expected from organic lesions. Contractures of hand, finger, wrist, foot, etc., are common, as well as posturings simulating torticollis, scoliosis, kyphosis, and the like. Hysterical speech disturbances are most frequently manifested in aphasia and mutism. The child makes no effort to speak, and the loss is complete, although he may whistle, cough, weep, even yell and sing.

Somatic or visceral symptoms include vasomotor signs such as coldness, cyanosis or dermatographia, as well as disturbances of any organ system. The alimentary canal is a favorite field for hysterical symptoms, the following being common complaints: globus hystericus, or the feeling of a stone or ball rising from the stomach until it reaches the throat; hiccuping; vomiting without nausea or any immediately evident reason; flatulence, constipation and diarrhea.

We cannot undertake to describe all of the physical symptoms that have been reported in patients with hysteria. It is safe to repeat that almost every physical sign may occur. In general, a distinction between physical symptoms arising from hysteria and those arising from organic pathology may be made. As has been mentioned, they do not adhere to patterns required by anatomic or physiologic conditions. They are usually not present during sleep and often disappear when the patient is relaxed, even though he is not asleep. Rather typically the physical handicap does not endanger the patient—the blind avoid perilous obstacles, the anesthetized do not get burned, etc. The physical signs are frequently transient; they occur suddenly, may last for relatively long periods, and then disappear. They may return after a period, or a different symptom may be substituted.

Abnormal behavior involving the whole organism may also be symptomatic of hysteria. Amnesia for all events for a long or short period, fugues or amnesic periods during which the person may travel and apparently be conscious of what he is doing, somnambulism, hallucinations and convulsions are the commoner forms of such symptoms. Hysterical convulsions may be distinguished from organic convulsions because they ordinarily occur in the presence of an audience, the patient does no harm to himself, loss of consciousness is doubt-

ful, convulsive movements are more irregular and bizarre, bladder and bowel control are seldom lost Paralogia or the Ganser syndrome is occasionally seen in children Kanner (1935) describes one case and says the only other one he could find in the literature was described by Hey (1904). In this condition the child appears to understand questions, but the answers just miss being correct. Thus Kanner's case gave the following answers:

Have you ever been in a hospital? Yes.

When? Next Monday

How old are you? Three months

When are you going to go home? Five years.

All of the mental symptoms suggest a division of the personality in which the symptom is a behavior of one part, which is not affected by the behavior of the other part. The extreme form of such dissociation is seen in cases of dual or multiple personality. Here the dissociation is so complete that at certain times the individual appears to be a different person. Prince (1914) has studied this condition most carefully in adults. Kanner (1935) says that he has never seen the condition in a child.

Etiology—Theories of the nature, and hence the cause, of hysteria are many. Janet's (1907) theory, that the main factor in hysteria is a disturbance of the personality synthesis or integration, concerns its basic nature. Freud's (1909) theory, that the hysterical manifestations are to be referred to the repression of psychic traumata, concerns the specific nature of the behavior. This psychoanalytic school would claim that all such psychic traumata are sexual in nature, but non-acceptance of such limitations does not destroy the value of the theory. Together, these afford a workable theory for clinical use. We may combine and reformulate the theory thus. In poorly integrated personalities psychic traumata produce conflicts which are repressed, to be later converted into apparently unrelated behavioral phenomena.

In accord with this theory, causative factors are divided into predisposing and precipitating. Anything which makes difficult or impossible, or which operates against, the adequate integration of personality is a predisposing cause. Hereditary and constitutional or organic conditions are frequently spoken of in this connection. However, there is little if any clinical or experimental evidence to indicate that such factors are of great significance in personality integration.

As Kanner suggests, if one accepts all the suggestions that have been made—e.g., psychoses, alcoholism, tuberculosis, epilepsy, homologous and heterologous heredity, queerness, etc., in grandparents, their children and their children's children—then every man and his brother must be predisposed to hysteria.

Of probably much greater importance as predisposing causes are, as Conklin (1927) points out, education and social status. As we have already said, the informal training of the home lays the foundation of the child's whole personality make-up. If there is no effort to help him build emotional control, no guidance in learning a necessary degree of inhibition, or no stability in the parents or between them, then the child will not form the steady, well-directed, integrated personality that can withstand the onslaughts of its environment. Formal education in the school may be unskillful and produce inferiority feelings, disappointments, emotional tension, and poor ideas of life which all interfere with the synthesis of personality. Conklin believes there is ample evidence that the majority of cases of hysteria come from either the extremely high or the extremely low socio-economic classes. In both of these groups, although for different reasons, there is less discipline, less stability of emotions, less adequate parent-child relationships. In other words, there is a greater opportunity for the child to fail in unifying the experiences that are his personality.

Given a predisposed personality, we have a fertile field for psychic traumata, for stressful experience, to result in conversion phenomena. Perhaps one reason that hysteria is rare in children is that the stresses of childhood are less frequent, less severe, or not "so ever-present." In adolescents or adults, and sometimes in younger children, many sorts of experiences may be traumatic. Sexual experience cannot be ignored, although it is probably not as important as the psychoanalysts would have us believe. Death, accidents, financial misfortunes, disappointment, worry, thwarted hopes and ambitions, marital dissension are but a few of the commoner environmental strains that may precipitate hysterical phenomena. Suggestion is another important immediate cause of hysteria; in fact, Babinski (1908) claimed that this was its most salient characteristic. Closely allied to suggestion is imitation, which may be a frequent cause in children, although not so important in adults.

The following case is presented *in extenso* because it is "so ideally commonplace as to make up for its spectacular deficiencies. It is pos-

sibly of more than usual interest for this reason particularized as follows: First, the pertinent developmental history of the patient is complete and distinct; second, the initial ease and suddenness with which this history was brought out is noteworthy, and finally, the patient's response to planned treatment was ideal "

Case Number 47 (Carter, 1936 I. U Psych Clinic. I—4478).

Admission history Kate Fox, a well-developed female, age thirteen years and seven months, with a history of only minor childhood diseases, was admitted to the James Whitcomb Riley Hospital with the following complaints:

1. partial paralysis of the left leg
2. extreme nervousness
3. marked loss of appetite

The patient's known history accompanying her admission was as follows. She had always enjoyed excellent health until nine months before, when, while in school, her left leg "suddenly gave way," "felt numb," and as though "needles were picking it." Two weeks later, after confinement in bed and while still on crutches, she became excited and nervous, acting as though she had "St Vitus' Dance." Following this, she spent a week in a local hospital, was somewhat calmed, but continued to use crutches. She suffered a marked loss in appetite. For the following three months she did not use crutches but continued to lose weight. In the fall she started to school again and there did excellent work as usual until she had another "nervous spell" five days before admission to Riley Hospital. Her mother attributed this to fright produced when a dog attacked the patient's little sister.

The patient's parents and three sisters were reported living and well, with one sibling dead (pneumonia). The mother was 36 years old and the father 37. The family was found negative for any pertinent disease history.

Clinical findings. A. *Medical.* At Riley Hospital the following positive clinical findings were obtained after thorough physical examination: muscle twitchings around throat and chest, hyperactive abdominal and patellar reflexes, with left leg reflexes more active than those of right leg. These findings suggested some possible neural involvement; however, no atrophy of either leg or other observable differences were found. The patient used the left leg as if she were afraid it could not bear her weight, but it was found that she had full use of it when lying down. Likewise, her gait was not found typical of

any produced by organic lesions. Constipation and a poor appetite with occasional vomiting were also observed.

The physicians' impressions as to the nature of the patient's difficulty were:

1. Hysterical paralysis
2. Post-poliomyelitis
3. Post-polio-encephalitis.

B *Psychological*. Four days after admission, the patient and the above information were referred to the Riley Hospital Psychological Clinic. Kate was brought to the clinic in a wheel chair. She was discovered to be unusually beautiful and with charming manners. She appeared quite intelligent and equally sensitive. She readily described the onset and subsequent history of her paralysis, loss of appetite, and other symptoms. When questioned about the "cause" of these difficulties she had no explanation. It was then explained to her that great emotional experiences were often connected with just such complaints as she had. She was then invited to confide the nature of any such experiences she might have had. With gentle urgings and an actively sympathetic attitude from the writer, the patient told of her fright when her little sister was attacked by a dog, and of her grandparents' death, all of which occurred after her first seizure. When questioned about her family relations she reported parental kindness and care.

As no emotional conflict prior to the onset of difficulties was brought out, the patient was asked to start with the first thing in her life she could remember and recount all of her experiences up to the time of her initial seizure. At this proposal the patient appeared somewhat defensive, in contrast to her willingness to talk of events subsequent to the beginning of her troubles. As the patient did not know where to begin, the writer attempted to help her with more specific inquiries, but with no results, until the patient remembered that she cried all during her first day in school. To establish better rapport the writer told of a similar experience on his first day in school. This was followed up by an exchange of school experiences which revealed the patient as an excellent student much devoted to attending school. During this time it was noticed that her uneasiness had disappeared.

Having exhausted this subject, the examiner returned to the patient's relations with her parents. Thereupon, she appeared more defensive than before and reiterated the mutual devotion between herself and parents with a suspicious earnestness. At this point the examiner remained silent for some time gazing at the wall. This sudden lull in

the interview so reacted on the patient that when he looked at her again she began to register considerable agitation. Her face became flushed, tears welled in her eyes, and she began trembling. After a sympathetic pause the examiner said, "Now tell me all about it." Whereupon, tears flowed freely and with much agitation she implored the writer never to tell her parents what she was about to say.

As the patient wished to avoid being looked at, both she and the examiner looked away from each other while she told a story of a parental triangle situation that had happened three years before. All during this time she was violently agitated, crying and convulsively trembling. She was allowed to tell her story and to have a beneficial cry afterwards without interruption. When she had finished, and her agitation had subsided, she was reassured and asked to think about the incident over and over again before coming back to the clinic. Her reaction to this request was an extreme emotional protest. It is worth noting that the main features of her story were brought out in the first interview. The detailed presentation that follows is the result of several interviews extending over a period of several months.

The patient's story. Three years before, when Kate was ten, her mother and the roomer in their house fell in love. Domestic strife entered an otherwise happy home. One night she heard her mother's lover suggest that they take her away with them. A few days following her mother eloped with the man. The mother stayed at the home of her sister in Indianapolis while her paramour made a trip to Kentucky to make living arrangements for them. In his absence the father, Kate, and her three sisters found Mrs. Fox and she was persuaded to return home. Up to this time the patient was only vaguely aware of the significance of what had happened.

When they reached home the pedestal upon which Kate had placed her parents completely collapsed under the violent and abusive scenes that followed. From the exchange of charges and counter-charges between the two she learned what her mother had done, and that her father had been "running around with another woman," and that a divorce threatened. The four girls reacted to this all-night scene by crying and praying together, as they were to do for many nights to come. The quarrel was temporarily halted when the mother became ill and had to be taken to a hospital.

A few days later the mother returned and the disturbing scenes were reenacted, with the girls crying and praying together as before. These nocturnal quarrels continued for a week or two during which the children suffered severely. Finally, the family visited the home of the grandfather where the parents agreed to a divorce. When the

children learned of this one of the older sisters threatened suicide, which appears to have had the effect of bringing the father and mother somewhat closer together.

About this time the paramour returned and took residence with his sister who lived across the street. The father vowed to shoot him if he came on the premises.

Shortly afterwards, a third man, a friend of the paramour and possibly a lover himself, threatened to shoot the father. One night this individual came into the yard of the home intoxicated and engaged the father in a quarrel. A fight followed, during which the intruder attempted to shoot the father. He was prevented from doing so only by one of the neighbors who knocked the gun out of his hand.

Following this disturbance the parents definitely agreed not to separate for the sake of the children and to refrain from all quarrels in the future. This, the patient claimed, they did. A little later the father joined the church and invited his would-be assassin to join with him (invitation declined), and a few months afterwards this third man was sent to prison for robbery. The paramour returned to Kentucky where he married a year later and returned with his wife about six months before the patient's admission to Riley Hospital. Kate thought his return worried her father as he "can't forget what he did to him."

The rest of the patient's story had to do with her reactions after the home conditions returned to normal. Her own words tell the story, e.g., "I couldn't bear to think about what happened," and, "I just didn't think about it." Thereafter, she said little at home, experienced unexplainable feelings of oppressive melancholy, and indulged in much sad brown study. This led others to fear she was "losing her mind." Because of these unbearable feelings she felt under a compulsion to "keep busy." She helped with the housework, assisted in preparing meals, and as soon as a meal was over she immediately washed the dishes. This home experience progressed from bad to worse until she was admitted to Riley Hospital.

In contrast to home she found school a relief, but within a year she began to experience a fear of social intercourse. She would grow strongly apprehensive when recess time drew near but was unable to explain why. Rather than go out with her schoolmates she would sit at her desk and study. Her girl friends, thinking she was ill, would make her feel badly by staying in with her to keep her company. She would rather study than do anything else because she could do this alone and apparently it provided her with an escape from her

vague fears. It is significant that her initial paralytic seizure came on just before a recess period

The rest of her story was in substantial agreement with that already recited in the Admission History. The only necessary comment on this part of the history is that at no time did the patient associate her home experiences with her manifest symptoms

Diagnosis A diagnosis of hysteria of the reactional dissociation type was made on the basis of the above findings considered as a whole and summarized as follows: (1) no organic findings to account for the patient's symptoms; (2) the conditions of defense and extreme emotionality under which was brought out; (3) a particularly violent parental triangle situation; and (4) the patient's non-acceptance of this situation, with (5) the resultant development of a reactional dissociation as characterized by melancholy, extreme nervousness, vague fears of social intercourse, escape attempts via housework and study, and a final fear conversion in terms of a partial paralysis of the left leg. All of these symptoms remained for the patient logically unrelated to her domestic experience of three years before.

Psychotherapy In light of the above findings it was considered essential that the patient return, figuratively speaking, to the situation of the parental triangle and learn to meet it with complete acceptance. This, it was believed, would eliminate the basis of her hysteria and redirect her reactional biography toward a more normal behavior picture. To this end a frequent and thorough review of the domestic scene in question was prescribed, along with physical and occupational therapy for the duration of hospitalization.

In all, the patient was seen in the psychological clinic three times in two weeks. Each time she was required to describe the domestic strife in more detail. Additionally, she was instructed to think frequently about what had happened, and in so doing to think of it as objectively as possible. The purpose of this was revealed to her and illustrated out of her own experiences as follows. "You were deeply grieved when your grandfather died, but you didn't stop thinking about it. You simply accepted his death as a misfortune and as time went on grieved less and less. You must do the same thing about your parents. Accept what they did and eventually it will upset you less and less."

Her first reaction to this procedure was strong emotional repulsion. However, she was finally prevailed upon and agreed to, what was to her, a horrible ordeal. Each time the patient told her story the emotional agitation became less and less. She professed to do as she was

urged, namely, to think about the whole situation, but reported it difficult.

Two weeks later when the patient was discharged as improved, all her symptoms had disappeared. At that time she was enjoined to continue thinking about the events in question and tell them to someone in whom she had confidence. If this were impossible she was to tell them aloud to herself when alone. She was also invited to visit the writer's office in her home town whenever she felt like it.

A month after leaving the hospital she returned for a follow-up examination and was reported well, happy and in school. No complaints were uncovered. She continued to walk with a normal gait and evinced no abnormal neurological findings.

More than four months later the writer interviewed the patient and her school teacher. The teacher, who had taught Kate throughout her school life (for eight years), reported her behavior as returned to normal. The patient had also asked the teacher to take her to the writer's office but this had not been done because of lack of time on the part of the teacher. Among other things, the patient's interest in the writer was revealed in a statement made to this teacher that when she was older she planned to work for him (transference). After seeing the teacher, Kate was privately interviewed. She reported as being happy, but still not talkative at home, with no fears of recess or other forms of social intercourse, no trace of paralysis, and well in general. The patient was quite composed when she retold her story, which was more connected than on previous occasions, although she was a bit "nervous." She said that she had done as the writer had asked and thought it over many times and that it no longer disturbed her, but that it was still unpleasant.

NEURASTHENIA

The difficulties of classifying psychoneurotic conditions culminate in the placement of neurasthenia. Beard (1880), who first introduced the term, meant by it a condition of nervous exhaustion. The theory that the clinical behavioral picture is a concomitant of physical fatigue was emphasized for a long time, especially by the French school. Evidence contradictory to this theory has accumulated, and today neurasthenia is widely considered a functional disorder. It is associated with anxiety neuroses, with obsessive ideas of a psychasthenic type, with feelings of inferiority, with hypochondriasis—in short, with almost all aspects of the psychoneurotic.

In adults, at least, neurasthenia is the most common of mental dis-

orders. ~~Everyone~~ ¹¹ passes through a neurasthenic phase at one time or another. It is only those whose neurasthenia is chronic who can be considered psychoneurotic. Even in adults the border line between normality and abnormality is vague, and the vagueness of the boundary is due to the neurasthenic tendencies so widely exhibited. With children, whose everyday behavior patterns are still being formed, and whose comprehension of themselves and those about them is so limited, the distinctions are even more difficult to make. Guthrie's (1909) statement, to the effect that children may be highly neurasthenic from an early age, must be taken with caution. It is true only if all varieties of behavior problems are subsumed under the term. The subsequent discussion is based upon descriptions of neurasthenia in adults. If we apply the same standards to children's behavior, it is quite probable that the incidence of classical neurasthenia will be very small.

Symptomatology.—The most characteristic symptom is a sense of physical and mental fatigue following the slightest exertion or even thought of effort. The patient is constantly tired; there is frequently great fatigue upon arising in the morning but by evening the patient feels fine; rest does not help the fatigue. Hartenberg (1914) demonstrated that there was no physiological basis in the muscles or peripheral nerves for the fatigue. The complaints include: headache, feeling of pressure on the head, pain in the back of the neck, eye strain, blurred vision, aches and pains in various bodily organs; gastrointestinal complaints such as indigestion, constipation or diarrhea, loss of appetite, circulatory symptoms such as palpitation, extra systoles, tachycardia, pseudo-anginal sensations; vasomotor instability, with pallor, blinking, sweating, feeling of heat and cold; respiratory complaints such as shortness of the breath, frequent colds, quick and shallow breathing, paresthesis or peculiar subjective sensations, hyperesthesia or extreme sensitivity to stimulation, especially to light and sound; genito-urinary disturbances such as impotence, nocturnal emissions, failure in erection or intercourse in males, dysmenorrhea in females, frequency of micturition, kidney complaints, etc. Even this imposing list does not exhaust all of the possibilities. Briefly summarized, the symptoms of the neurasthenic all express a physiologic weakness and incapacity.

Etiology.—As with all psychoneuroses, etiologic factors must be divided into predisposing and precipitating. Inferiority feelings appear

to be the most prominent basis for neurasthenia, although constitutional deficiencies may be of some significance. Fisher (1929) believes that the neurasthenic is primarily introverted and therefore predisposed to self-concern, which affords a reason for the behavior picture. Strecker and Ebaugh (1935) believe that fatigue, which is so constant a symptom, is due to "mental cross-purposes." Being unable to solve personal problems, the patient is unable to face problems outside of himself and so becomes more introverted and concerned with his own bodily processes. Such concern magnifies ordinary physiological processes and minor ailments that in health are disregarded. Déjerine and Gauckler (1915) trace the course of immediate causes thus: emotional upsets normally give rise to mental and physical changes which the predisposed patient observes. He then draws erroneous conclusions as to their nature and source, considers them signs of disease, becomes entirely convinced of this, and finally functional disturbances are manifest.

Excessive masturbation is held by some authors to be basic to neurasthenia. This has been the view of the Freudian school of psychoanalysis, which at one time believed that masturbation caused physical debilitation from which neurasthenia arose. In the more modern functional interpretation, masturbation, with its frequently associated emotional conflicts and personality inadequacies, is possibly still of serious etiologic moment.

PSYCHASTHENIA

Psychasthenia is really a group of problems, the most frequently mentioned of which are compulsions, obsessions, and phobias. Some writers would identify psychasthenia and neurasthenia, although the division between them is widely accepted. Such identification is indicative of the difficulties of differential diagnosis. In children the distinction is probably even less clear than in adults. The frequency of occurrence of psychasthenia in children must remain in doubt. This is mainly true because it is almost impossible to maintain a sharp boundary between the common or even uncommon fears of childhood and phobias, or between the ordinary perseverative tendency that is frequently found in children and a true obsession or compulsion. Some workers with adult patients claim that at least 50 per cent of the cases can trace the difficulty back to childhood, while other workers believe psychasthenia is rare before puberty. It is generally be-

lieved that the condition is slightly more frequent in girls than in boys. Among the James Whitcomb Riley Hospital records on some 30,000 children, there is not a single diagnosis of psychasthenia. Whether this means a consistent avoidance of the diagnosis, or whether there was no case that could be so diagnosed, it is impossible to say.

Compulsions or Compulsive Acts—These behavior forms are separated by some into a special type called compulsion neuroses, but the clinical picture is the same regardless of the term used. The patient feels forced to perform a certain act or series of acts, he is unable to avoid doing so, but he recognizes their uselessness. Manifestations may range from excessive washing of the hands or counting the squares in the sidewalk, to complex behavior patterns. Certain types of complex acts, such as kleptomania (compulsion to steal), pyromania (compulsion to set fires), dipsomania (compulsion to alcoholic indulgence), are to be classed as compulsion neuroses rather than as psychoses or as willful delinquency. Freud (1909) described the case of an eleven-year-old boy who could not sleep until he had told his mother all of the day's happenings in minute detail; until every scrap of paper or rubbish was cleaned from the floor of his room, until his bed was against the wall and three chairs set by its side, and then after getting in bed, he had to kick a definite number of times with each leg. In children such elaborate ritualistic acts or even simpler acts of a truly obsessive character are rarer than they are in adults. Noyes (1934) says that children's compulsive acts are largely persistent habits. Another form of child behavior which closely simulates compulsions is shown in certain types of play which involve persistent repetition of acts. A. A. Milne in *When We Were Very Young* has given an illustration of this in the poem, "Lines and Squares," where dire results are predicted for those who step on the lines. Such games, and perhaps certain acts associated with emotional situations, may persist and finally become compulsive acts over which the child has no control.

Obsessions or Obsessive Ideas—These are mental or ideational activities which are persistent and over which the patient seems to have no control, although he recognizes their irrational nature. The melody or the lines of a poem which keep "running through one's head," almost at times to distraction, may be taken as an example of an innocuous obsession. Ross (1923) gives a case of an adult patient who was obsessed by the number thirteen. There was no particular fear

of the number, but if he heard the word he would be miserable. He stayed in bed on the thirteenth day of each month. He was uncomfortable if signs with thirteen letters, or salutations like "good afternoon" which had thirteen letters could not be avoided. His persistent endeavors to avoid the number took so much time that he was totally unfitted to do anything else. A child may be obsessed with the idea that the spelling lesson has not been learned, at least not well enough to be satisfactory in school the next day. Or he may be greatly concerned because he may have offended someone, even though he has taken great pains not to do so. Obsessions over numbers may occur which do not show themselves in avoidance, but in influence of the number in useless ways. Thus, children may walk in groups of three or some other number of steps, stop, and then take the precise number of steps again. Speech is interrupted by pauses after each group of three words, doors are opened three times in succession, etc. Unless things are done in the proper groups there is a feeling of incompleteness—the task is not finished. Certain types of obsessions are sufficiently common to have been given names. Examples are:

Arithmomania obsession concerning numbers, and urge to do things a certain number of times

Onomatomania obsession concerning certain words or sentences

Folie de doute obsessive doubts as to whether certain acts have been carried out

Grubelsucht brooding over trifles.

Fragesucht compulsion to ask irrelevant questions.

Phobias or Obsessive Fears—We have elsewhere considered children's fears and there mentioned one sort of fear that, although it is entirely unreasonable and the patient recognizes it as such, he is unable to overcome. Any environmental situation may be a stimulus for these morbid fears, consequently they may be different for every case. A number of rather common fears have been endowed with somewhat awe-inspiring names, as given in the following list:

| Name | Fear of |
|------------------|---|
| Acrophobia | high places |
| Agoraphobia | open places |
| Aichmophobia | sharp or pointed objects |
| Anthropophobia | men or a particular man |
| Claustrophobia | closed places |
| Déire de toucher | touching objects or persons |
| Eruetophobia | blushing |
| Gynephobia | women or a particular woman |
| Hamilophobia | other people finding something wrong with the patient |

| Name | Fear of |
|----------------|--|
| Hematophobia | blood |
| Monophobia | solitude |
| Mysophobia | contamination |
| Nyctophobia | darkness |
| Ochlophobia | crowds |
| Pantophobia | practically everything |
| Paralipophobia | precipitating disaster through having forgotten or neglected something |
| Pathophobia | disease or a particular disease |
| Phobophobia | fear or being afraid |
| Photophobia | light |
| Pyrophobia | causing fire through negligence |
| Syphilophobia | syphilis |
| Taphephobia | being buried alive |
| Toxophobia | poisoning |
| Zoophobia | animals or a particular animal |

This list of terms, which might easily be extended, amply illustrates the variety of situations toward which people have unreasonable fear reactions. The occurrence of phobias of such specific types in children is probably rare. There is evidence, however, that many of the phobias of adults can be traced back to childhood. It is possible that children do not recognize the irrationality of the fears as readily as adults do and therefore many are not recognized as phobias.

Hypochondriasis—This term is used for obsessive belief in the presence of organic pathology or disease, or excessive concern over minor organic ailments. It may concern some ailment in specific organs, it may be a general malaise, or it may vary from organ to organ. In children the pattern may imitate a real or hypochondriacal complaint of parents or siblings, or it may follow upon a real, but minor, injury. Frequently the hypochondriasis is associated with unhappy life experiences.

Levy (1932) has summarized factors relating to hypochondriasis in children. Of etiologic significance are exposure and memory of earlier exposure to disease or deformity in other persons, the patient's own real illnesses, body sensitivities, anxiety about illness, and anxiety about masturbation. The child may utilize hypochondriacal complaints to avoid difficult situations or to secure attention and sympathy.

Anxiety Neurosis—This designation is often given to morbidly anxious states which do not have the relatively specific characteristics of the phobias. The condition is more frequently found in adults who are exposed to requirements which they fear they cannot meet. Pen-sinus (1933) observed the case of a four-and-one-half-year-old child

who exhibited morbid anxiety and passivity, as well as anti-social behavior, apparently as a result of severe mental and physical deprivation.

If one contrasts these brief descriptions of the several symptom complexes subsumed under the term psychasthenia, one is struck with several points of similarity. (1) In each case the behavior—motor, ideational, or affective—is purposeless and useless. (2) In each case the patient recognizes the irrationality of his behavior. (3) In each case the behavior has little or no correlation with the patient's general behavior and, unless it becomes excessive, does not interfere with his social adjustments. (4) The behavior suggests a dissociated process, similar in many respects to the hysterical reactions earlier described. These similarities suggest that causative factors are probably similar.

Etiology—As with all psychoneurotic reactions, it is impossible to be dogmatic about the causes of psychasthenia. There are several theories, each of which is probably of some value. In adults these conditions may be thought of as resulting from specific childhood experiences, especially affectively colored ones, or as the residuals or direct consequences of strong emotional experiences at any age, or as symptomatic of repressed ideas, or memories which are incompatible with the person's other habit patterns. In every case the behavior exhibits a certain degree of dissociation. Compulsions, obsessions, phobias, anxiety, or hypochondriacal trends are probably more frequently symptoms of repression in adults than they are in children. Before adolescence children probably have less reason for repression than the adult, they are more naive and probably less affected by cultural taboos. Therefore, the causative factors in psychasthenic reactions in children are probably more directly associated with the symptoms.

Fear—perhaps a somewhat natural one—becomes excessive and morbid, thus developing into a phobia. Compulsive acts and obsessive ideas result from the perseveration of originally innocuous activities. Psychasthenic reactions may result from the strain of school requirements or from the stress of home life. Imitation of parental behavior and attitudes may result in any of the symptoms described. While limited generalization can be made, the details of causation will vary from case to case.

The two cases which follow illustrate phobias in adults which had their origins in childhood experiences. True phobias are difficult if

not impossible to distinguish from non-compulsive fears in young children, but the possible compulsive effects in adolescence or adulthood of frightening experiences in childhood make the problem one of concern to us

Case Number 48 (Bagby, 1922). A young woman of good heredity developed during her childhood a severe phobia of running water. She was unable to give any explanation of her disorder, which persisted without noticeable improvement from approximately her seventh to her twentieth year. The general nature of the disturbance is readily shown.

Her fear reaction to splashing sounds was especially intense. For instance, it was necessary for her to be in a distant part of the house when the bathtub was being filled for her bath, and, during the early years, it often required three members of the family to give the bath. She always struggled violently and screamed. During one school session a drinking fountain stood in the hall outside of her classroom. If the sound of children drinking was audible, she became very frightened, actually fainting on one occasion. When she rode on railroad trains, it was necessary to keep the window curtains down so that the streams over which the train passed might not be seen.

During her twentieth year an aunt, Mrs. G., came to visit at her home. This lady had not seen her niece in thirteen years. She was met at the station by the mother of the girl, who told her of the daughter's condition. On arrival at the house, she met the girl and her first words were, "I have never told." This served to provoke a recall of the following episode.

The mother, the aunt, and the little girl—she was then seven years old—had gone on a picnic. Late in the afternoon the mother decided to return home but the child insisted that she be permitted to stay longer with her aunt. The mother agreed to this on the child's promise to be obedient to the aunt. The two then went into the woods for a walk, and the girl, disobeying her aunt's instructions, ran off alone. The aunt followed and, after a search, found the child lying wedged among the rocks of a small stream with a waterfall pouring down over her head. She was screaming with terror. They proceeded to a farm house where the wet clothes were dried. The child expressed great fear that her mother would learn of her disobedience, but the aunt reassured her with the promise, "I will never tell." They returned home and the aunt left the house next morning without seeing her niece. The child was thus left with no one in whom she

could confide and had a period of anxiousness. The phobia developed shortly after this

After recalling this experience of her childhood, the young woman found it possible to approach running water without discomfort. And gradually the special adjustments, which her phobia had necessitated, disappeared

Case Number 49 (Bagby, 1922). A man suffered from a phobia of being grabbed from behind, the disturbance appearing early in childhood and persisting to his fifty-fifth year. When walking on the street, he was under a compulsion to look back over his shoulder at intervals to see if he was closely followed. In social gatherings he arranged to have his chair against the wall. It was impossible for him to enter crowded places or to attend the theater

In his fifty-fifth year he returned to the town in which he had spent his childhood. After inspecting his old home, he went to the corner grocery and found that his old boyhood friend was still behind the counter. He introduced himself and they began to reminisce. Finally the groceryman said this. "I want to tell you something that occurred when you were a boy. You used to go by this store on errands, and when you passed you often took a handful of peanuts from the stand in front. One day I saw you coming and hid behind a barrel. Just as you put your hand in the pile of peanuts, I jumped out and grabbed you from behind. You screamed and fell fainting on the sidewalk."

The episode was remembered and the phobia, after a period of readjustment, disappeared

The following case and Number 43 previously presented are illustrative of children's hypochondriacal tendencies

Case Number 50 (Kanner and Lachman, 1933) *Late effects of "asthma in infancy"* George H., nine and a half years old, was referred for psychiatric consultation because of spells of shortness of breath, which began in September, 1930. His mother first noticed the breathing difficulty at the table and thought that "he was in a hurry to go out and play." The spells at first occurred at lunch only, later also at dinner time. Usually he unfastened his belt, saying that this gave him relief. For a number of years he had been a feeding problem, was "particular about certain foods," and his parents "had to encourage him to eat." More recently, there have also been Sunday morning headaches.

George is the son of a healthy forty-two-year-old store manager,

who for several years has suffered from "nervous indigestion," which, however, has not bothered him of late. The mother is an intelligent, robust woman of forty years. George is the second of two children. His older sister, nineteen years of age, has a very good school record, works steadily as a telephone operator and is normal in every respect. There were two miscarriages between the births of the two children. With the exception of the paternal grandfather, who died of tuberculosis, there have been no serious acute or chronic illnesses, physical or mental, nor remarkable peculiarities in any member of the family in either branch for at least three generations.

George was a full-term child, born without any complications. He was breast-fed for two weeks only, gained weight steadily, and offered no feeding problem for the first few years of his life. Dentition, the development of locomotion, and speech occurred at the usual time.

At the age of one year, he had an upper respiratory infection which lasted one month. The family physician diagnosed the condition as "asthma" and warned the parents that it might return in the future. He prescribed a strict dietary regime and advised that the child be watched very closely and brought back whenever they noticed the slightest sign of breathing disturbance. At eighteen months he was circumcised. At two years he had whooping cough; at three years, measles; and at six years, scarlet fever ("very slight"). When he was seven years old, he was admitted to the Harriet Lane Home with acute anterior poliomyelitis, which was exceedingly mild and left no traces after a quick recovery. In August, 1930, his tonsils and adenoids were removed.

He began to go to school at six years and did exceptionally well in his studies and in his contacts with teachers and schoolmates. In September, 1930, as a result of change of residence, he was transferred to another school. He felt uneasy about the sudden disruption of his previous associations and resented particularly the much longer distance between his home and the new school. It was then that his breathing difficulties began.

George is a well-developed, well-nourished boy. Physical examination showed no abnormalities. At nine and a half years, he has a mental age of almost twelve years (I.Q. 118). He is somewhat childish in his reactions, is a spoiled child who expects—and gets—everything at home, but is not given sufficient opportunity to develop a sense of responsibility and personal independence.

We have here—as everywhere else when we are dealing with human reactions—a combination of factors that must be taken into account in sizing up the boy's difficulty. It is remarkable, and a sign

of a stable personality make-up, that, in spite of maternal over-solicitude, he has done splendidly for nine years, with the exception of feeding difficulties, which were found to be considerably exaggerated by the mother. During the first few years of his life, he did not know that he was expected to have a recurrence of "asthma." Later, even after being told to observe himself very closely and to report any evidence of its appearance, the entire home and school setting was satisfactory enough to preclude any attention to his somatic functioning. But as soon as the change of schools and the greater distance created a situation unpleasant to the boy—whose father had reacted to financial worries with gastric complaints—the "asthma" began to assert itself. Real illness of short duration at the age of one year, aided by medical prophecies and parental apprehensions, helped to pattern the behavior trends in a healthy and intelligent, but spoiled, child after a period of approximately eight years.

George and his very cooperative parents were informed about the nature of his "asthma." He was given adequate recreational outlets and personal responsibilities, which he had lacked before. His "asthma" disappeared promptly, together with the feeding problem and the Sunday-morning headaches.

TREATMENT

It is evident from the foregoing discussion that the separation of the psychoneuroses into types rests upon differences in symptomatology. When one turns to the etiology of the various symptoms there is an easily recognized similarity. In each case, the abnormal behavior patterns rest upon an introverted, introspective, insecure, inferior-feeling type of personality. The origin of such personality types will not be discussed here, for we have already considered the question elsewhere. Such individuals react to the difficulties of their environment by avoidance or escape behavior. Some find release from responsibilities in the border realm of neurasthenia. Fatigue and complaints of illness justify to the patient himself, at least, his failure to solve difficulties—surely a sick man must be excused. These reactions are common to a large share of mankind, but with most people they are temporary, only when they become chronic can they be considered as abnormal. In other patients the conflicts over disturbing experiences are repressed; that is, an attempt is made to escape them. Still further conflicts arise and the person develops obsessive doubts, fears, or motor acts which are partially dissociated from his usual

personality. Although these dissociations of psychasthenia are non-specific and not always clear cut, they are none the less real. Finally, we have those patients in whom the conflicts result in specific and clear-cut dissociations of a motor, sensory, or more general sort, extending even to the total splitting of the personality. In this type of hysteria, the symptoms seem to be more organic and may therefore be more deceptive.

The etiological picture here summarized holds for probably all adult cases. In children, it is doubtful whether the dynamics are so complex. The conflicts between the child's changing personality and his environmental situation are probably less severe and more easily adapted to. Therefore, there is less reason to expect abnormal behavioral resultants. We have earlier pointed out that fears, compulsions, and other symptomatic behavior of a similar kind may arise in children more as directly learned reactions from models in the environment. The dynamic simplicity of psychoneurotic behavior in children makes the prognosis more hopeful, and therapeutic measures simpler.

Any program of treatment must include at least these three things (1) a thorough physical examination that eliminates the possibility of organic pathology; (2) an extensive and exhaustive history, including events preceding and subsequent to the onset of the neurosis, and (3) the sympathetic interest of the therapist.

The physical examination, if it is negative or if it uncovers relatively minor disturbances, affords a basis for the evaluation of the subject's complaints. Also, if pathology is disclosed it can be corrected; if uncorrectable, it becomes a known factor in the total picture. The physical examination and therapy are properly the field of the physician. However, one cannot expect the cure or even improvement of psychoneurotic symptoms by medication or surgical interference. The best medical opinion is expressed in this quotation from Wechsler (1935): "Certainly, obvious physical defects demand remedy, but it may be positively stated that no hysteric anxiety or conversion symptom was ever cured in that way; and it is equally true that all those attempts only serve to confirm the neurotic in his complaints and to perpetuate symptoms which could be more intelligently removed by psychotherapeutic measures."¹ In hysteria the ap-

¹ Israel Wechsler, *Clinical Neurology*, 3rd ed., 1935, p. 732, courtesy of W. B. Saunders Company

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sensory defect, and in neurasthenia the frequent
seem to demand specific medical attention. But
in of Wechsler's statement will warn against di-
symptoms. It is not the paralyzed arm which must
whole individual. Too much attention directed
complaints may do harm by confirming the pa-
physical disability. Although it is sometimes pos-
hysterical limp or anesthesia by suggestion, unless
is relieved some other symptom almost inevitably

ugh and accurate history it is not possible to deal
ie personality conflicts basic to all psychoneuroses.
include information, especially concerning attitudes
periences, not only immediately preceding the onset
as early as possible in the child's life. The sources
uld include the parents, teachers, relatives, or any
the child, and, perhaps most important of all, the
ct, the relating of experiences in the course of giving
a therapeutic value. This has been well illustrated
47, in which the girl freely discussed innocuous
learly showed the conflict of her attitudes toward
the informal and impersonal questioning and an-
ected conversation of the patient, affords an oppor-
olishment of rapport between him and the therapist
ility of a real organic disability precluded and with
ation of the problem based on the history secured,
is ready to attack the difficulty. His purpose must
ient to recognize the conflict and see its etiological
al, intellectual, reasonable arguments are of no avail.
relieve the traumatic experience. Once having faced
nd its subsequent conflict objectively, he must be
n a more normal relation to all other experiences.
ing and trying to avoid it, he must live with it and
t of it." Carter's handling of Case Number 47 nicely
thod. Once the girl recognized the importance of
mily episode, she was urged to treat it in the same
ad treated her grandparents' death. Although this
decided emotional reactions, it was objectified and
ief disappeared. Her shock and grief following her

parents' quarrel were not faced, but repressed; consequently they continued to exert a decided influence upon her behavior. Once the event was relieved and then treated as an unpleasant but unavoidable episode which could be fitted into the normal pattern of life, the symptoms disappeared and the personality disturbance was greatly relieved.

It is evident that the foregoing therapeutic suggestions are not adequate. However, it would take us too far afield to go into more extensive detail. The child has its own specific problem which must be met in its own way; there are a few near-certainties the psychoclinician must keep in mind: a psychoneurosis always means a conflict; the basis and nature of the conflict are discoverable by patient; the patient must face the conflict; the patient must reevaluate it so that it takes its proper place in his life economy. With these principles as a foundation, the actual therapeutic approach must be guided by the patient, the problem, and, above all, the ingenuity of the psychoclinician.

PSYCHOSES

True psychotic conditions in children are of extremely rare occurrence. Hagen (1876) calculated that, per year, one in 70,684 children under fifteen years of age became insane. Of 1532 cases, he recorded 59 as having acquired the condition during childhood. Moeller (1876) found no children in the asylums of Saxony in 1867, and only eight in 1875. During this same period there were 194 cases residing with their families. Emminghaus (1887) found, among a population of about 10,000, the following incidence of insanity by age groups:

| | |
|-----------|---------------|
| 1-5 years | 0.18 per cent |
| 6-10 " | 0.69 " " |
| 11-15 " | 1.46 " " |

According to Welt (1893), Deboutteville found that of all admissions to the Saint You Asylum between 1827 and 1834, 0.9 per cent were between five and nine years, 35 per cent between ten and fourteen years, and 20 per cent between fifteen and twenty years of age. This same author also reports Turnham as having found only eight children less than ten years of age among 21,333 insane patients. Spitzka (1890) reports that in Wurttemberg there were 104 children among 3948 insane patients. Modern data are given by Strecker (1921),

who found only eighteen cases of indubitable psychoses in children under fifteen in 5000 consecutive hospital admissions; ten of these were girls and eight were boys Kasanin and Kaufman (1929), in a series of 6000 admissions to the Boston Psychopathic Hospital between 1923 and 1925, found 160 children under sixteen years of age—92 boys and 68 girls—of whom only 65 were diagnosed as psychotic.

Malzberg (1931) analyzed the U S Census enumeration of mental hospital patients and found the rate per 100,000 of the general population of the same age to be:

| Age | 1910 | 1923 |
|-------|------|------|
| 10-19 | 14 6 | 20 6 |
| 10-14 | 3 7 | 6 0 |
| 15-19 | 25 5 | 37 2 |

He points out that there are practically no admissions below ten years of age. In the next decade the rate for the last half was six times that for the first half. The first-admission rates per 100,000 population of the same age reported by the U. S. Bureau of the Census (1935) were

| | |
|----------------|------|
| Under 15 years | 1 3 |
| 15-19 years | 25.7 |

Children under fifteen years of age constituted only 0.7 per cent of all admissions, while children above that age constituted 29.4 per cent of the total population in 1930. Data from hospital admissions cannot be taken as a true representation of the number of psychotic children because there is probably a decided aversion on the part of the parents or guardians to commit children to state hospitals.

Ackerson (1931), in his analysis of the case records of 5000 children seen at the Institute of Juvenile Research, mentions only dementia praecox as having been noted. There was a staff diagnosis or a question of this condition in 74 of the 4454 white children between the ages of one and seventeen years. The youngest case was seven years old and the incidence increased with age, especially after twelve years. Interpreting his data, that all the evidences of psychoses in this group were of the dementia praecox type, we calculate that about one and a half per cent of the children referred to this psychological clinic showed signs of psychosis.

Adequate statistics of psychoses in children are not available. From those summarized above it would appear that of all psychotic patients less than one per cent are under fifteen years of age. Admission rates to mental hospitals for three years—1910, 1923, and 1933—gave incidences per 100,000 of the population of the same age, of 37, 60, and 13, respectively. These represent an average of about 0.003 per cent of children under fifteen years of age admitted to mental hospitals. We have no data on the relative number of children who are admitted to hospitals; but the ratio given by Moeller—eight in asylums to 194 at home—while very old, may be accepted as not too small. Even on this ratio of nearly 25 times as many psychotic children out of hospitals as in, probably less than 0.1 per cent of all children are psychotic.

The types of psychosis exhibited by children and adolescents are shown in Table LXVIII, modified from Malzburg (1931). These fig-

TABLE LXVIII —PSYCHOSES OF CHILDREN UNDER 19 ADMITTED TO STATE HOSPITALS

| Psychosis | Per Cent of All Admissions | | Rate per 100,000 General Population of Same Age | |
|--|----------------------------|-------|---|-------|
| | Under 15 | 15-19 | Under 15 | 15-19 |
| Traumatic | | 0.3 | | 0.1 |
| Senile | | | | |
| With cerebral arteriosclerosis | 0.2 | " | " | " |
| General paresis | 0.2 | 0.9 | " | 0.3 |
| With cerebral syphilis | 0.7 | 0.1 | " | 0.1 |
| With Huntington's chorea | 0.2 | 0.1 | " | " |
| With brain tumor | 0.2 | 0.1 | " | " |
| With other brain or nervous disease | 4.0 | 1.2 | 0.2 | 0.4 |
| Alcoholic | | 0.1 | | " |
| Due to drugs or other exogenous toxins | | 0.3 | | 0.1 |
| With pellagra | 0.2 | 0.3 | " | 0.1 |
| With other somatic disease | 2.4 | 2.1 | 0.1 | 0.7 |
| Manic-depressive | 5.1 | 14.1 | 0.2 | 4.5 |
| Involutional melancholia | | 0.1 | | " |
| Dementia praecox | 6.4 | 37.0 | 0.3 | 12.0 |
| Paranoia and paranoid conditions | 0.7 | 0.2 | " | 0.1 |
| Epileptic psychoses | 11.4 | 6.0 | 0.5 | 2.0 |
| Psychoneuroses and neuroses | 3.1 | 3.1 | 0.1 | 1.0 |
| With psychopathic personality | 2.7 | 4.1 | 0.1 | 1.3 |
| With mental deficiency | 14.6 | 9.1 | 0.6 | 3.0 |
| Undiagnosed psychoses | 8.4 | 5.9 | 0.4 | 1.9 |
| Without psychoses | 39.5 | 14.7 | 1.7 | 4.7 |

" Less than 0.05

ures represent admission to state hospitals and are therefore to be interpreted with caution. It will be noted that 39.5 per cent of the children under fifteen years of age thus admitted are found to be without any psychosis. Among older adolescents, between fifteen and nineteen years of age, there were about 15 per cent without psychoses. As we are interested primarily in children we shall limit our discussion to those below the age of fifteen years. In this group 14.6 per cent were diagnosed as "psychosis with mental deficiency," 11.4 per cent as "epileptic psychoses," and 8.4 per cent whose psychoses were undiagnosed. The diagnosed psychoses of greatest frequency were dementia praecox, manic-depressive, and those accompanying neural pathology. A similar order is found in the older group, but the actual percentage is a good deal larger. These figures substantiate what has been said earlier, that psychotic conditions are rare in children, but show a definite increase with increasing age.

In our subsequent discussion we shall deal only with the three most frequent types of psychoses.

DEMENTIA PRAECOX OR SCHIZOPHRENIA

Dementia praecox and schizophrenia are synonymous terms which are, in a general way, descriptive of two characteristics of the condition. The first term, introduced by Kraepelin, emphasizes the early occurrence of the psychosis. The age of onset and appearance of acute symptoms in about 70 per cent of the cases is between fifteen and thirty years, some cases occurring as early as five years of age according to Ssucharewa (1932). Bleuler in 1912 applied the term schizophrenia to the same group of conditions, with the intent of emphasizing the splitting-off of mental processes.

The great variety of the behavior patterns exhibited by schizophrenic patients makes a simple definition of the condition impossible. The following features are considered characteristic of the dementia praecox type of reaction, although they may not all appear in the same way in every case:

1. Seclusiveness and withdrawal from reality, or, as Kanner (1935) suggests, "a more or less complete disregard of life's actualities and their subordination to, and interweaving with, dream-like, fanciful, disconnected or loosely connected ideas and experiences."

- 2 Emotional blunting, indifference to environmental stimulation, silliness.

3 Discrepancies between thought, moods, behavior and emotions. There may be little or no relation between reported ideas, e.g., of great suffering, and the behavioral reactions.

4. Development of peculiar trends, often fantastic ideas, with odd, impulsive or negativistic conduct not accounted for by any acute emotional disturbance or impairment of the sensorium. These may be suspiciousness, hypochondriacal complaints, ideas of reference, feeling of being influenced by mysterious powers, etc. In spite of delusions the patients are usually well oriented.

5 A change in verbal and motor activities. Verbalization becomes incoherent and irrelevant; new words are invented by mutilation and condensation of ordinary vocabulary, and unrelated words are strung together in the so-called "word-salad," an excellent example of which is the following from Conklin (1927):

"central criminal law services supreme court branches trees great authority by verdict conduct criminal law of the supreme court on the branch trees had for the control of prosecutors who was consider of service by crimes so many convicts, etc "

Campbell (1925) summarizes the schizophrenic picture thus: "The schizophrenic type of reaction seems to be characterized by diminished interest in, and adaptation to, the work-a-day world, increased interest in subjective creations or fantasies which are emancipated from the control of ordinary logical or scientific thought, the frequent occurrence of hallucinations, odd and fragmentary behavior and utterances of little adaptive value in relation to the present situation."

It is customary to distinguish four types of dementia praecox according to the prominence of certain symptoms.

1. Paranoid—This form is characterized by delusions, frequently persecution or grandeur, which are apt to be bizarre and not well systematized, together with hallucinations, especially of an auditory nature. Strecker and Ebaugh (1935) say that "a predominantly homosexual component or fixation at this level of development appears prominently in this group." According to Kanner (1935), this form rarely starts before the third decade of life.

2 Hebephrenic—Conklin (1927) says that in this type "dilapidation of thought is the outstanding feature." The symptomatology includes silly behavior, grimacing, laughing and crying spells with no observable cause, violent anger, peculiar mannerisms, changeable de-

lusions. Conspicuous silliness in thought and action is the outstanding characteristic. This form is the most common one in adolescence or at younger ages.

3. Catatonic—Here the outstanding symptoms are motor; they may be evident in either a stuporous or an excited phase. In the former the patient may assume and maintain a given position, often extremely awkward, for periods of a few minutes to weeks, he may show resistance to passive movement or hold any imposed position—the passivity to imposed motion is of such a nature that it has been called “waxy flexibility” or “lead-pipe rigidity.” Blau and Averbuck (1936) report a condition of this type in a child of three years. In the excited phase there may be stereotyped movements automatically repeated (echopraxia) or automatic repetitions of sounds (echolalia), or there may be occasional periods of intense, impulsive activity. This type also occurs frequently at younger ages.

4. Simple—The simple deteriorating type is most insidious because its onset is gradual and it is not marked by any unusualness. The patient gradually becomes apathetic, loses interest in his environmental contacts, becomes sullen and withdrawn or irritable and obstinate, and as the condition progresses he becomes more and more self-absorbed. The course of the condition is not marked by observable delusions or hallucinations, although there is often more or less peculiar behavior.

These descriptions of schizophrenic reactions are those usually given for the condition in late adolescence and in adults. However, essentially the same picture is seen in younger children. The differences are summarized by Potter (1933) thus: “Because of the fact that the child is limited in his verbalizations and the fact that his thinking is in the direction of concreteness rather than abstraction, what little delusional formation there is, is exceedingly simple and naive. The outstanding symptomatology is found in the field of behavior and a consistent lack of emotional rapport.”

Ssucharewa (1932), from a study of 107 cases seven to seventeen years of age, distinguishes a simplex type of schizophrenia occurring more usually in younger children and rarely in adolescence. In this he says that normal childish activity and affective contact with the environment suffer first. There is a lack of interest in or motivation toward various activities. Thinking becomes formal and vacuous. Imperfect unification of mental functions is an early sign. Tendencies

toward automatisms and stereotyped behavior appear and later hebephrenic and catatonic traits, the latter being more frequent in children

The following cases illustrate dementia praecox in children.

Case Number 51 (I U Psychological Clinic. I—4162) Jane M., white, female, C A 16-10 at time of admission to the James Whitcomb Riley Hospital as an out-patient on October 22, 1935. Complaint was loss of weight, refusal to eat, mental disturbance.

Family and personal history. Patient was a full-term, normal delivery baby. She was apparently in good health until the age of nine months when she was weaned and it was difficult to find a formula which would agree with her. She talked at ten months and walked at fourteen months. She has had measles and whooping cough with good recovery. At the age of three, a chronic constipation resulted in prolapse of the rectum for which she was operated on at home. She has always been anemic, under-weight, and under-size for her age. She graduated from grade school and completed the first year of high school.

She has always been her mother's favorite child, while her four younger brothers have been the father's favorites. Her mother has always waited on her, she has never had to help with the housework, even to the extent of keeping her own room clean. As will be shown subsequently, she refuses to accept any responsibility in relation to her home.

The father has always been somewhat unstable. During his college career, his parents died and he was left with a small estate. For the remainder of his college years, he was an easy spender, with the result that after graduation he found himself with very limited funds. His occupational history shows frequent changing of positions, although usually he had a good income. His last regular job was as a bond salesman which he lost early in the depression in 1930.

The mother's reaction to the family's changed financial position was a complete "giving up." She lost all interest in everything and let her home become very untidy and run-down. The only exception to this was her care of Jane's room which even at their worst period was always neat and well kept. The girl accepted this special attention as though it were due her.

The father reacted to the changed economic situation by becoming even more unstable and alcoholic. His alcoholism was fairly chronic, with occasional debauches, in at least one of which he threatened to shoot the whole family.

First hospital admission: From August to November, 1933, the patient had an attack much like the complaint for which she was admitted at this time. In this period she was a patient at St. Vincent's Hospital where she was treated for her malnourished condition and was discharged as improved, although there was no change in her mental condition. She started to school in November, 1933, but did not do well that year. In July, 1934, her illness returned about one week before returning home following a five-week visit with friends in the country. She apparently enjoyed the first five weeks of the stay. During the last week of her visit she would not eat or sleep. After returning home her mother noticed that she did not eat well, and slept mostly during the day and not at night. At times she would imagine things which were not true, e.g., she imagined a friend of hers was visiting across the street and told her brother to escort her home. When she first returned home from her visit she had a violent dislike for her father. She would not eat with him. She once threw her clothes in the middle of the floor and told her mother to get rid of them. She told her mother to get rid of a lot of things and among these to start with her father. This continued for about two months. In October her appetite improved slightly; she had no depressions, but was very apathetic and just sat or lay around at home. She was admitted to the hospital in November, 1934.

1. Complaint—General apathy and melancholia, loss of appetite, weight, and sleep.

2. Findings—Malnutrition associated with mental disturbance characterized chiefly by melancholia. Loss of weight and capricious appetite. Failure of beginning menstruation, but secondary sex characteristics developed, e.g., some mammary development and pubic hair.

3. Diagnosis—' ' ' ' type

4. Progress as ' ' ' ' patient was given thyroid extract, grains $\frac{1}{4}$, two times a day, and was given antuitrin-S 15 cc daily for fourteen days, allowed to rest fourteen days, and then repeated. She showed some improvement under hospital regime. An attempt was made to clear up the family difficulty, while the social service found a home for her to which she was furloughed January 3, 1935.

History between admissions: Shortly after her discharge, a foster home was found for her. The foster mother agreed to keep the girl because she was interested in seeing what could be done. After a few weeks, this foster mother discovered that Jane had wheedled the maid into spending several hours each day fixing her hair and dressing her. Jane also refused to conform to the family meal hours and other simple rules which the foster mother required of her own daughter. When

spoken to about her attitude, Jane's response was that she did not have to obey any rules as the foster-home mother was getting paid for keeping her. This condition became so severe that she was returned to her own home. Jane returned to school, but was still only a sophomore. In October, 1935, following an embarrassing episode in the classroom, she went home and refused to return to school. A few days later, she refused to eat; and two days after this, a neighbor brought her to the out-patient pediatric clinic at Riley Hospital. Here the chief complaint was under-nourishment, loss of weight, and a continuous tired feeling. When questioned on this visit the girl was extremely withdrawn and did not respond. From this clinic the girl was referred to the Psychological Clinic where she was seen on October 25. In the examination at this time, she was much more alert and seemed perfectly willing to answer questions. The only significant factor elicited was that she apparently disliked her father. The conclusion was "a withdrawn type of personality with complications due to vile home conditions." She had been staying for a few days with the neighbor who brought her to the Clinic, but this lady was unable to keep her any longer. For this reason she returned to her own home while the social service agency, which was interested in her, undertook to find some means of removing her from the home.

It was finally decided that the girl should be sent to a private Catholic girls' school. By the time arrangements had been made, it was only a few days before the Thanksgiving holidays of this school, therefore, on November 22, 1935, the girl was admitted to the Rotary Convalescent Home at Riley Hospital to stay until after school started. At the present writing (April, 1936), the girl is still in the Rotary Home. Progress notes from the Hospital records: "Shortly following her admission, the girl became severely depressed and withdrawn. She also developed some paranoid ideas, for example, she developed antagonism toward every physician or psychologist who tried to talk to her, and when luminal and hot milk were prescribed she refused to take them because she said they were trying to poison her. She was given orange juice at meals and refused to drink that because she thought it was poisoned." About the middle of December, Dr. Jerry W. Carter, Jr., of the Psychological Clinic Staff was able to contrive an accidental meeting with the patient and established a satisfactory rapport. While her condition at this time would not permit much psychotherapy, in the course of the next two months she cleared up sufficiently to make it possible to lead her into some insight into her mental condition and provoke an interest in realities. On January 24, 1936, Dr. Rogers Smith prescribed manganese chloride intravenously. While the

girl had begun to become somewhat more clear before this, after the medication and continued psychotherapy improvement was rapid. The daily notes of the nursing staff indicate constant improvement.

The last time the patient was seen by Dr. Carter previous to the writing of this account was on March 21, 1936. At this time, he commented upon her remarkable progress and made the following notes: "She sleeps well, eats well, and has developed a keen interest in the social activities of the Rotary Home. She attempts to help the other patients, seems happy, and resigned to not going home for a year or two. She takes an active interest in her school work and things in general. She has, to all appearances, abandoned her withdrawn type of behavior and gives promise of a return to normal; however, I feel that, due to the fact that she is still unwilling to face in conversation her past history, the improvement is apt to be temporary. The patient's emotional disturbance has probably not been displaced by a more hygienic reeducation of her emotional life."

Case Number 52 (Kasanin and Kaufman, 1929) E. H., white, female, age 15, school girl. Admitted to the Boston Psychopathic Hospital May 13, 1923. Discharged May 18, 1923. Diagnosis: Dementia praecox. Reason for admission. The patient was acting peculiarly at home and could not be controlled by her foster parents.

Family history. The patient's father was a shiftless, irresponsible individual, mother was a prostitute and had syphilis. There is some doubt whether the patient's father was her real father. We know that her early environment was quite sordid. Nothing is known about the present whereabouts of the father. Mother died at City Hospital when the patient was six years of age.

Personal history. The patient was born in 1908. Nothing is known about her infancy and early childhood. The parents complained about the child, calling her difficult and stubborn. At the age of six the patient was taken over by the Home for Little Wanderers on account of her mother's illness. There she was found to be quite cooperative and responded very well to gentle treatment.

From 1915 until 1923 the patient stayed in one family who were extremely devoted to her and, not having any children, treated her more indulgently than they would have treated their own child. From 1915 on until the onset of the present illness, 1923, the patient was visited from time to time by the social worker from the Home for Little Wanderers and we have her notes for this period.

In the fall of 1915 the social worker makes a note that the girl is very happy in her foster home, has improved wonderfully in appear-

ance and manner, talks freely and readily to the visitor. She is still shy but not as timid as formerly. Bright in school, affectionate, and likes it very much

Notes in 1916 say that the child is very happy and the foster parents like her very much. She tells her foster parents that she is extremely fond of them and likes them even more than her own parents. She seems to be extremely sensitive and gets all worked up and cries when she receives a little scratch or sometimes when there is nothing at all the matter with her.

Early in 1917 there is a note to the effect that the patient somewhat dislikes her music practice and the school. The same year the child asks her foster parents if her name could not be changed to their name. In 1918 she resents the visits of the social worker and signs her name with the foster parents' name. In 1918 the teachers report her as a very lovable little girl. She is in the sixth grade and has practically all A's.

In 1919 the girl wants to join the church. Still resents the visits of the social worker. She wants to forget that she is a foster child.

In the eighth grade in 1920 the patient finds difficulty with arithmetic. The school teachers describe her as very quiet and diffident, but sweet-faced and very well mannered.

In 1920 when the patient was shown the pictures of her real father and mother the girl asked that these be put away because she wanted to forget all about them. It is only on account of the fear of publicity that the foster parents did not take the step of adopting the girl.

Early in 1922 when she was fourteen she was described as an obedient and lovable child. She looked much younger than fourteen and the foster parents used to dress her up as a little girl. Late in 1922 she was described as cross and fretty. At school she had difficulty with algebra. The foster parents thought that this may have been due to the fact that the patient started to menstruate in August and had suddenly stopped menstruating late in the fall.

The patient was described as an extremely quiet, shy, diffident girl. One of the most marked traits was her complete lack of initiative and no active interest in anything. She would never go out and call on her friends, but if other girls would come and call on her she would go out with them. If she would see another girl across the street she would never go and greet her, but would simply say "hello" in a quiet voice. She was never very affectionate with her foster parents but they surrounded her with affection and carried out all her whims. She never stood up for her own rights. One day a boy threw her hat up in a tree. She simply looked at him and made no protest. Noises always

bothered her. She hated fireworks and she would not go to a show where there was going to be shooting. Even banging of a door upset her.

When the patient was brought here the foster mother gave a very interesting description of the patient's personality. She said that naturally the girl had very little interest in her environment. She had no curiosity and would never ask a question. She never had any interest in her studies and her foster parents spent a great deal of time coaching her. She was extremely dependent upon others in her judgment, always hesitating, vacillating, never could make a decision and acted only by pressure from others. She did not seem to be especially imaginative or daydreamy.

The patient had absolutely no sense of humor and took everything literally. When criticized she sulked a great deal. She had always been an extremely jealous child. She was shy, backward, poor mixer, always staying apart and allowing others to get ahead of her. Her playmates did not stick to her, perhaps because she was jealous. She liked to be alone and could not stand any demonstration of affection.

The patient began to menstruate at the age of fourteen but she accepted this fact without displaying much curiosity about it. She didn't play with boys at all but occasionally played with girls. She was extremely fond of her stepfather and was in the habit of getting into his bed at night to have her foster father rub her back. Some of the foster mother's friends criticized this procedure, but the foster mother said, "What harm could it possibly do—she is such a pure, innocent-minded child?"

When the patient was in the eighth grade some of the teachers took an acute dislike to her and called her "thick-head." The other children noticed that the school teachers were picking on the girl.

About six months before the patient came to the hospital she became peevish, fretty, and began to be more indecisive than previously. She began to forget her lessons and the foster parents had to telephone her schoolmates to find out about the assignment for the following day. She began to be more and more undecided about things. She would start to go somewhere and then change her mind. Eventually this became very marked and she would get half way to a place and not be able to decide whether to go on or not. She stood around on the street corners, and was undecided about crossing.

Onset of illness: Three months before admission her work became very poor and she had a row of D's. At school they said that she would not talk or answer questions and that she was found wandering from room to room in an aimless manner and carried her "gym" shoes

under her arm all the time. She didn't know why she carried these shoes. They had to send her out of the room for giggling. She began to be extremely slow about everything and in going for walks urged her mother to go slower.

The first time the family realized that something was wrong with her was when she insisted on going to school during the Easter vacation. She began to eat everything and put on a lot of weight. She began to think that people looked funny. The patient ran to the looking-glass, looked at herself and said that she felt as if she had more teeth than usual. On Saturday night before admission she insisted on going to school and when her father took her out she stopped in the middle of the road and wouldn't go either ahead or back. Finally they had to get a nurse to help with the girl as they did not have any control over her. Once she said, "Oh Lord, let me live until I am 38." The family physician was called in and when she saw him she grabbed his genitalia and wanted him to have relations with her. She used the vulgar expression for it. She did the same thing with her father. She told the same thing to the nurse, saying to her, "Do it, I don't know how myself." The foster parents were startled by her conduct and consented to bring her to the hospital.

Physical examination. On admission to the Boston Psychopathic Hospital the patient was found to be a well-developed and well-nourished girl in good physical condition. The examination of blood and urine was negative.

Mental status. She appeared very childish, sulky, but extremely aloof, and resisted examinations. She was very unresponsive throughout the whole stay in the hospital. She was absolutely unapproachable and would not reply to any questions, with the exception of saying that she wanted to go home. Once she said that she knew that the whole trouble was her difficulty with her menstruation. Her mood was one of fear and apprehension. She said that the people looked at her. Hallucinations were not elicited. Her intellectual functions as far as could be tested showed no impairment. No psychometric examination was done because she was too disturbed.

Further course. On May 18, 1923, she was transferred to the Westboro State Hospital. There they noted that she was still uncommunicative, seclusive, refused to talk and kept all the time near the door. She was obstinate, stubborn, and resistive. No delusions or hallucinations could be elicited. On July 14, 1923, she was allowed to go home on a visit and was returned by her parents on September 27, 1923. She seemed restless and appeared to be sick. She said, "I am afraid I am going to heaven." The note of December 10, 1923, states that the

patient would keep no clothes on and rubbed food into her hair. She is also very uncommunicative. Six months later she is silly, untidy, foolish, dirty, exposes herself, does not use a knife or fork in eating her food. They state that the patient is deteriorating very rapidly. On October 5, 1926, the patient was transferred to Tewksbury State Hospital by order of the department of mental diseases.

Case Number 53 (Kasanin and Kaufman, 1929). E. C., age 13; female, white, admitted August 12, 1924. Diagnosis: Dementia praecox. Reason for admission: Acute confusional state with auditory and visual hallucinations following the death of her cousin.

Family history: Both her paternal and maternal grandfathers were alcoholic. The father is also an alcoholic. The mother suffered from severe headaches. Both parents were of low intelligence and did not get along well together. There was a great deal of friction in the family, quarreling and recriminations, the father being an inferior type and a poor provider.

Personal history: The patient was born in Ipswich, Mass., the second of nine children. There was a long and difficult labor. She had the ordinary childhood diseases with good recovery. The patient's personality as described by the parents showed that the girl was quiet, shy, sensitive and unduly serious for her age. She was very fond of study, liked to read books and disliked housework. The school authorities stated that she did very well but was a difficult girl to approach. She was a poor mixer and seemed always to be worried about conditions at home. Her only interest outside of reading was picking blueberries. This enabled her to earn enough money to buy some clothes. Although sensitive to criticism in school and having few friends, at home she was quite open and frank. Her mother felt that she was an odd child, who always wanted to know everybody's business. At times she was quite headstrong, self-willed, and liked to have her own way.

Owing to the disharmony at home and the punishment which she suffered from her father when he was drunk, the patient formed a marked attachment to a paternal cousin who was a bachelor.

Her menses were not established. Beyond the fact that she was not interested in boys, nothing is known of her sex life.

Onset of illness: About ten days before admission, the cousin to whom she was attached died and the patient attended his funeral. On her return home she went to bed, and at about ten o'clock that night she had a crying spell. The father, later in the night, noticed her sitting up in bed. She told him that she saw men on horseback, riding

from pasture to pasture. These men were under her window and she had told them to go away. One of these horsemen, whose name was Mike Kelleher and who had a shrill, sharp voice, would not leave. She also stated that she saw the stove dressed up with a hat on it, but when she looked again the hat was gone. During the following days she would frequently ask her mother to pinch or shake her. "Make me realize, make me realize, something is bothering me, there is something bothering me all the time." The mother noticed that she held her hands stiffly and that both her feet and hands were cold. It was felt by the parents that there was something definitely wrong with her. She remained in this condition for three days. On the third day the patient tried to pull her hair, threatened and actually struck her mother. She apparently realized that something was wrong with her and she kept asking her mother about herself. On one occasion, prior to her admission, the patient did not seem to notice a girl chum who had come to visit her. When spoken to, there would be no reply. Patient seemed to be in a daze.

On admission the patient was found to be in good physical condition, well developed and nourished. The pupils reacted to light and accommodation, the reflexes were active; blood Wassermann was negative; blood hgb. 95; white blood cells were 12,200. The gynecological examination showed an intact hymen.

Mental status: On the ward the patient was quite cooperative, but somewhat underactive and exhibited little interest in her surroundings. She later complained of a sore throat. Her stream of talk, although not spontaneous, was relevant and coherent. At times she became very talkative. She was disoriented for time but knew where she was. Her memory was intact and her intellectual level was normal. She denied any delusions or hallucinations when first admitted, but later there were some vague hallucinations when the patient said that she saw flies.

Two weeks after admission she went over the whole situation with the physician. At the death of her cousin she became very much upset and, on her return home from the funeral, had a headache, felt feverish and could not eat much supper. When in bed, she felt hot and could not sleep. On looking out of the window she heard a dog bark and also the voice of the man already referred to. It was a dark night and therefore when she looked from the window, although she saw someone moving, she could not discern whether it was a man or woman. Next day she was surprised that none of the family had heard anyone. She again denied hallucinatory experiences while in the hos-

pital. The patient improved steadily and was discharged on September 6, 1924, with a diagnosis of dementia praecox.

Further course. The hospital recommended that the patient should be placed in a foster home, but the mother refused to do this. The whole situation was then taken up with the principal of her high school, who promised his cooperation. For the next three years the patient got along very well, except for a few days each month during her menstrual period. At this time she would become excited and talk a great deal. On several occasions it was necessary to keep her out of school. According to the principal, she showed considerable improvement and was quite frank with him in discussing her difficulties. He felt that she was rather easily depressed and that the home situation was responsible for this to a great extent.

In July, 1927, the patient obtained a job as waitress in a summer hotel. She did very well there until August, when she learned that her sister was ill. It was then noted by the manager that she acted peculiarly, was dreamy, erratic, and inattentive at times. She wrote a very incoherent letter home. On September 7, 1927, the patient returned to a step-aunt in Boston. She was overactive and excited, made a number of silly purchases, which upset her parents. At night she roamed about the front room and said that she heard her sister calling her from an automobile. On September 15 she was taken home to Ipswich. Her condition was unimproved. There was an epidemic of infantile paralysis near Ipswich and patient began to worry, saying that it would kill all the children. She gave medicine to all her little brothers and sisters, hung bags and other articles on stings in the windows and spent much time in tearing up pictures. At night she put cold cream on her sister's face. One night, thinking that her father wanted a drink, she threw a pan of water on him while he was in bed. She slept very little and her appetite was poor. One day she took a box of matches, saying that she would burn them in Boston. No reason for her actions could be elicited from her and, when questioned, she asked to be left alone.

The patient then began to quiet down. Several times she said that people were calling her. It was noted that she laughed a great deal in her sleep. Her appetite improved but she became more and more apathetic and refused to leave the house to go to school. During October she laughed to herself in a silly manner. Frequently patient went upstairs and carried on a conversation as though some other person were present with her. On October 17, 1927, she was readmitted to the hospital. Her physical examination was negative.

She was pleasant, cooperative but somewhat evasive, and kept her glance directed away from the examiner. No delusions or hallucinations were elicited. On the ward her behavior was at times impulsive, during the staff conference she suddenly jumped up and left the room. On several occasions during the latter part of her stay she told the physicians that her brother and sister called her in the night and interfered with her sleep. On January 9, 1928, the patient was transferred to Danvers State Hospital. There she was found to be in good physical condition; she was happy, interested, and cooperative, at times quite elated. There was no memory for events leading to her admission. The whole experience seemed to her like a dream. On February 5, 1928, the patient was discharged to her parents. She was left as an undiagnosed psychosis.

Since her discharge from the hospital, the patient has made a very good adjustment at home.

Causes—Heredity has been suggested as a cause of dementia praecox in a number of investigations. Barrett, according to Kanner (1935), found "78 per cent of heredity tainting factors in schizophrenia, as contrasted to 67 per cent in the non-psychotic population." White (1929) reports that Wolfsohn found about 90 per cent of 647 cases of schizophrenia showing hereditary taint. In contrast to such data as these is the study of Pollock (1918) which found that at least 50 per cent of the dementia praecox patients showed no evidence of unfavorable heredity.

Neural and endocrine pathology have been suggested as causes by a number of investigators. Neural pathology includes cortical degeneration, lipid changes in cortical layers and the optic thalamus, presence of ameboid glia cells, intra-cellular fat in basal ganglia, calcareous degeneration of blood vessel walls, etc. The difficulty with most of the findings is that they are from small samples of material, that reports of different observers do not agree, and that, in some cases, the findings have not been confirmed by other investigators. Dunlap (1924), from a careful study, concluded "For us the changes in the brain of schizophrenia are not only inconstant and non-specific but they are such as may be found in any series of control cases; in other words, their significance for the disease process seems to be without importance."

Probably most widely accepted are the psychogenic theories. For the psychoanalysts, schizophrenia is a regression, because of conflicts, to earlier infantile and childish stages of development. This is perhaps

a more interesting than useful theory. It requires so much of the impedimenta of psychoanalytic logic that non-psychoanalytically minded psychologists and psychiatrists find it of little value.

A genetic theory, which finds the basic etiologic factors in the ontogenetic history of the patient—such as has been advanced by Adolf Meyer (1906)—has much to commend it on theoretical and practical grounds. Strecker and Ebaugh (1935), holding this point of view, say that “evasions of the realities of life by the utilization of hypochondriacal trends, suspiciousness, fault-finding, bizarre religious motivations, marked and pathological stubbornness, brooding, seclusiveness, etc., are prominent in the social maladaptations and life histories of the patients.” Kasanin and Veo (1931) believe that personality deviations may be indicative long before any real breakdown is evident. Sanz (1933) says that a schizoid type of behavior appearing in children indicates a predisposition toward dementia praecox. This may develop during or after adolescence if environmental factors enhance the tendency to withdraw. In Case Number 51 from our own clinic there is an excellent picture of at least a possible genetic schizophrenia. This girl has never built habits of independence in dealing with her environment because of her mother’s over-solicitude. The child has no habit pattern adequate to meet the increase in difficulties presented by the environment because of the changed economic circumstances. She finds an escape in withdrawal which becomes accentuated to the point of a temporary near-stuporous condition. Adequate histories of most dementia praecox patients would probably show a similar picture. The reasons for withdrawing may be varied—lack of independence, environmental requirement too great for the individual’s habit patterns, lack of companionship in early years, and the like—but once started and allowed to continue over a long period of time, the stage is all set for the entrance of the extreme withdrawal called schizophrenia.

Diagnosis.—The description of the symptomatology given above outlines the conditions upon which a diagnosis of dementia praecox may be based. However, a final diagnosis should not be made on the basis of symptomatic picture alone. It is necessary also to have a rather complete history of the patient’s earlier life experiences.

On the basis of symptomatology it is necessary to differentiate between schizophrenia and manic-depressive psychosis. Differential diagnostic points may be summarized thus:

| Schizophrenia | Manic State | Depressive State |
|--|---|--|
| Depression evidenced by subjective feeling of sadness Observer would recognize the patient's behavior as <u>melancholia</u> | | |
| Excitement may be present but shows no evidence of being connected with the environment | Excitement in fairly close contact with immediate environment Prevailing mood appears genuine | |
| In both of the above affective states there is a <u>lack of agreement between mood and thoughts</u> | In the manic-depressive there is rather close agreement between mood, thought, and action | |
| General behavior is odd, silly, irrelevant. Incoherence in thought | Flight of ideas, over-activity, over-verbalization. | Slow activity and thought Under-activity |
| Delusions, unsystematized, usually of grandeur or influence | Expansive ideas corresponding to the elation | Self-condemnation corresponding to depressed state |
| Hallucinations usual Insight usually absent | No hallucinations, may be insight | Hallucinations rare Usually insight |

Evaluation of factors in the patient's history should always be used to support, and often to establish, the diagnosis. The schizophrenic's history shows frequent attempts to escape difficulties, flight from reality, withdrawing from social contacts, and the like. The pre-psychotic personality is introverted, asocial, and schizoid. In contrast, the manic-depressive history shows alternating periods of elation and depression; and the pre-psychotic personality type is extraverted, social and cycloid.

Treatment.—There has been a widespread feeling that the prognosis in dementia praecox is always poor; as Strecker and Ebaugh say, it "has become somewhat synonymous with hopeless chronicity." While the condition is still one of the major mysteries of psychiatry, the modern genetic view of the etiology promises a great deal more favorable prognosis.

If therapy proceeds on the basis that the psychosis is a culmination of a long history of personality distortion, then prophylaxis must be considered the major weapon. The child exhibiting a shy, withdrawing behavior must be dealt with in such a way as to facilitate the develop-

ment of more social, more externally directed habit patterns. As we have said earlier, this will require the cooperation of a harmonious home. If the family situation is strained, if one or both parents is over-solicitous, if discipline is too harsh, if there is favoritism for one child, if there is destructive competition between siblings, if the child is not allowed to build independence, if he does not have companions of proper age and sex, or if there is any other psychologically undesirable circumstance in the home, it must be corrected. Without home cooperation little can be expected, and it may be necessary to remove the child from the unsatisfactory environment.

Direct treatment of the child by the clinician, the members of the home, the nurse, the social worker, or others, is necessary. The essential point to be gained is an objective meeting of the environmental realities. Companionship is necessary, and such companionship must include the possibility of bringing friends to a home of which the child is not ashamed. Discipline must be tempered with explanation. The child must have responsibility within the limits of his abilities and experiences. Reading and academic activities should be supervised, at least to the extent of limiting the fantastic and unreal.

If the child has progressed to the stage of an imminent or actual psychosis, therapy is more difficult, but the aim must still be the objectification of reality. Every advantage must be taken of the child's interests, abilities, and early experiences as gleaned from the history. He should be encouraged to tell his story to sympathetic ears. The unreality upon the edge of which, or in which, the child is, cannot be dismissed abruptly. Rather, the clinician must take advantage of every possible contact with environmental realities shown by the patient. Building confidence, suggestion, and persuasion are useful. Active participation in group games, outdoor activities, occupational therapy will all help to establish better contact with reality. Because it is often difficult or even impossible to make contact with these patients, especially after the disease progresses, psychotherapy is difficult. For this reason, if for no other, the earlier in the course of the condition that therapy is undertaken the greater are the chances for a successful outcome.

Medical therapy and management in hospitals are beyond the scope of this book. Strecker and Ebaugh (1935) briefly outline certain attempts at drug therapy which are necessary in dealing with certain

symptoms, but are probably not of great significance in efforts to correct the whole psychotic condition in most patients. Hospital care is usually necessary for advanced cases. The data of the U S Bureau of the Census (1935) show that in 1933 there were 48 dementia praecox patients discharged per 100 admitted. Of these, only five were recovered, thirty-three were improved and ten were unimproved. This rate of recovery was smaller than for any other psychotic type except those with definite organic pathology, and the rate of discharged but unimproved was the highest in all groups. The figures for 1932 show essentially the same thing. These data may well be interpreted to mean that the prognosis for a case so far advanced as to be hospitalized is poor. Committing children to the state mental hospitals is probably poor procedure. Malzburg (1931a) by a questionnaire study found that only four of forty-one state hospitals had any facilities for the special care of children. A few others made some effort to keep children separated but had no adequate facilities.

Dementia Infantilis or Dementia Praecocissima.—In 1909 Heller published a report of six cases showing a demented condition to which he gave the name dementia infantilis. De Sanctis (1906) a few years earlier had described a case with a similar clinical picture, which he called dementia praecocissima. These conditions have been thought by some to be associated with dementia praecox, but evidence does not support such a view. By 1930 probably not more than 50 or 60 such cases had been reported. The condition is described by Zappert (1922) and Heller (1930) thus: Normal or apparently normal mental development until the third or fourth year; then speech disturbances appear and progress until there is no spontaneous speech. Understanding of language heard is impaired; attempts at teaching completely fail. Course progresses until there is complete dementia closely comparable to idiocy. The facies remain normal appearing, and there are no physical or neurological concomitants. Heller was able to observe some of his patients over a period of years, and found their behavior and abilities comparable only to those of idiots. De Sanctis reported the intellectual deterioration but also found catatonic symptoms and emotional blunting.

Heller in 1930 says that the condition has nothing to do with schizophrenia. It is a regressive process the origin of which is completely obscure. De Sanctis (1925) mentions three factors of probable etiologic

significance: (1) hereditary predisposition, (2) acute or chronic toxic diseases, and (3) factors inherent in the child's development

MANIC-DEPRESSIVE PSYCHOSIS

The psychotic type which has the second largest number of cases is the affective or manic-depressive psychosis. This condition is characterized by disturbances in moods, feelings, or emotions, rather than in the intellectual realm. Included under this head are the apparently opposed behavior patterns of mania and depression. Jelliffe (1931), in an excellent brief historical sketch, outlines the changing attitudes toward these patterns from the time when they were thought of as separate and distinct, to the classic interpretation of Kraepelin, who, from his painstaking and elaborate analysis of clinical material, saw the essential relationship between these two patterns and the affective life. Following Kraepelin, three types or phases of this psychosis are usually distinguished: the manic phase, the depressed phase, and a mixed type. Each of these in turn may be subdivided.

The *manic phase* is marked by a general acceleration of all behavior, together with a more or less pleasant emotional state. Depending upon the degree of excitement, this phase has three degrees. (1) *Hypomania*, in which the facial expression is gay, animated and happy, conversation extremely animated, writing large with much underscoring and other signs of emphasis, all reactions quick, thought flowing swiftly but erratic and bizarre. There is increased good humor, boastfulness, self-assertion, the patient declares he never felt better; he is capable of enormous amounts of work, he has great schemes and discoveries. Henry (1925) well summarizes this "In many ways this condition resembles the first stage of alcoholic intoxication." (2) Manic condition, or *acute mania*, is an exaggeration of the same symptoms. The thinking is so accelerated that speech may be confused, and ideas incompletely expressed, there is a "flight of ideas." Talk and motor activity may be vulgar, profane, and vicious. Illusions and hallucinations may be present, but delusions are rare and when present are temporary and unsystematized. Motor activity is greatly increased, sleep is irregular. Attention and discrimination are poor, so that the patient may at times appear to be disoriented. (3) In *hypermania*, the most extreme condition, the overactivity may be so great that sleeping, eating, and all regular activities are seriously interfered with and the patient may become exhausted. Talking is continuous, clothing is torn

and discarded, destructiveness and violence are common. Increased distractibility leads to confusion so that illusions and hallucinations are more frequent.

In striking contrast to the behavior just described is that seen in the *depressive phase*. Here again there is a clinical division into three phases: (1) *Mild depression* is little more than a prolonged "blue spell." The patient is sad, he lacks confidence in himself, he is beset with doubts and fears, and motor activity is decreased, as are talking and initiative. There may be physical complaints for which no organic basis can be found. The patient may avoid social contacts. His ordinary daily activities are performed with difficulty. Suicidal thoughts are common and there may be attempts at suicide. (2) *Marked depression* is an exaggeration of the above behavior. The depression is more profound; lack of confidence, doubts and feelings of unworthiness may become fixed. Hypochondriacal ideas become more extreme and often the depression is blamed on poor health. Loss of appetite, constipation and sleep disturbances are frequent. These patients are apt to attempt bodily harm to themselves and suicidal attempts are common. (3) *Stuporous depression* is so extreme that behavior and thought are practically at a stand still. Conversation is monosyllabic, expressed in a low tone, or there may be mutism. The patient's attention cannot be attracted nor his interest aroused, consciousness is clouded, there may be hallucinations and illusions. There may be a complete loss of ability to carry out daily needs, such as feeding and elimination, so that the patient has to be fed and cared for.

While it is clinically convenient to speak of three degrees of both mania and depression, it must be remembered that they are merely differences in degree and that it is impossible to draw a sharp dividing line between them. It must also be remembered that, while the deviations from the normal occur in the affective field, there are deviations in the ideational and motor fields as well. In mania emotional, ideational and motor reactions are all increased, whereas in depression, all three are decreased.

The mixed states—those which do not conveniently fall into either of the foregoing—may be thought of as various combinations of decrease and increase in the three arbitrarily selected functions. Although he may have carried his classifying too far, Kraepelin lists the following six chief types of mixed states:

1. Maniacal stupor
2. Agitated depression
3. Unproductive mania
4. Depressive mania
5. Depression with flight
6. Inhibited mania

The diagram in Figure 16 illustrates, in probably an over-simplified way, the direction of deviation in the affective (A), ideational (I), and motor (M) fields. From a dynamic point of view it is impossible to consider these three functions as varying independently, but some

| | normal | | | |
|------------------------|------------|---|---|------------|
| | ← decrease | | | → increase |
| Mania | | | | A I M |
| Depression | A | I | M | |
| Maniacal stupor | | I | M | A |
| Agitated depression | | | A | I M |
| Unproductive mania | | | I | A M |
| Depressive mania | A | I | | M |
| Depression with flight | A | M | | I |
| Inhibited mania | | M | | A I |

Figure 16—Manic-depressive Psychosis Types
(A = affect, I = ideation, M = motor)

such scheme is convenient in classifying clinically observed varieties of behavior in this psychosis

These descriptions of the conditions in affective psychoses are based on clinical findings in adults. In children the pictures are essentially the same, although they may not be so clear cut. Kasanin (1931) gives the clinical picture of mania in children as "mild elation, over-activity, inability, and a push of speech," and of depression as "withdrawal, undertalkativeness, general retardation, and occasional refusal of food"

The following cases are illustrative

Case Number 54 (Kasanin, 1931). M. M., male, white, school child, age twelve, was admitted to the Boston Psychopathic Hospital November 7, 1928, discharged to relatives on November 16, 1928, readmitted on the following day and discharged on December 20, 1928. Hospital numbers, 29738 and 29801

Chief complaint For the past two years the patient has been over-active, unstable, and has spoken about hearing voices.

Family history The grandparents were stable, normal people. The

father is a conscientious, intelligent person, a good provider, and a steady worker. The mother is an unintelligent, unstable person, very much preoccupied with her own health. Most of her conversation is about her own illnesses as well as the illnesses of her children. She is extremely fond of operations. She talks a great deal about incidental, unimportant subjects.

The patient is the third of three children. The oldest boy is somewhat peculiar and the boys call him "Baldy McNutt." He is inefficient and has difficulty in keeping jobs. The sister is sixteen. She is mentally deficient and stays at home with her mother.

Personal history. Patient was a full-term baby and delivery was normal. Developmental history is negative. As a boy he had the usual children's diseases with good recovery. He began school at the age of six and was promoted regularly until he reached the fifth grade, which he had to repeat. He was an earnest pupil but his work was not very satisfactory.

Since the age of three the patient has been looked upon as a nervous child. He was restless, twitched a good deal, and had night terrors which interrupted his sleep. When five years of age he had periods of nocturnal restlessness and would often be found roaming about the house at all hours of the night. Sleep-walking and sleep-talking were prominent symptoms at that time.

The family always lived in a rural section. The boy had to play by himself as there were no other children around. On a few occasions, when he had an opportunity to play with other boys, he did not get on well with them and did not seem to know how to play. He complained that the other children were rough with him and sometimes cruel. When with the other boys he was always subdued and humble. With adults he was quite the opposite: talkative, boastful, and pretentious. He was always extremely active and used to take long hikes all over the neighborhood so that his mother could never find him when she wanted him.

Present illness. Although the boy has always been a problem child, it is during the past two years that he has been an increasingly difficult problem. During these last two years he has had periods when he has seemed to be oblivious to his surroundings. He has seemed to be preoccupied with his own thoughts, to which he responded in various ways, usually by talking to himself and by laughing. He has been annoying everyone at home by spending a great deal of time holding long and detailed dissertations on minor incidents which came up during the day. He has been very fond of playing practical jokes on the neighbors, jokes which annoyed them a great deal. One of his

latest pranks has been to go about the neighborhood using the telephones to call up different people in the vicinity, give his name as "Mr Pea Coal," and ask them if they would care to buy some apples from him at a ridiculously low cost. If the person accepted the offer, he would laugh and then hang up the receiver. He did this so many times that the neighbors complained to his mother.

For two years the patient had been treated in the State Habit Clinics where it was noted that he was very often garrulous and minutely circumstantial. At times there was marked distractibility, with a flight of ideas. There have been times when the patient has shown a clinical picture of an affective disorder with its pressure of activity, impulsiveness, facetiousness, elation, etc. The boy was given psychological tests in these clinics which yielded an I.Q. of 78. This score was not felt to be representative on account of lack of concentration and the overactivity of the patient.

On admission to the hospital, the boy was found to be in good physical condition. He had a marked left internal strabismus. Examination of blood and urine was negative.

In the ward he was restless, overactive, and would not stay in bed. While talking to the examiner he was moving his hands and feet and was sliding about the floor. He was distractible and wanted to touch everything with his hands. He was very often impulsive, jumping around and grimacing. He was extremely overtalkative, constantly asked questions, interrupted other people when they were talking, and conversed freely about various subjects. His mood was quite variable. He seemed to be very happy most of the time. When asked about visions, he said he saw a vision of a man who stood at his bedside and then disappeared. He thought it was the devil in disguise. He said that he heard voices that said, "Hello." He also complained that the boys made him the butt of their jokes.

The boy gave a good account of his life and described vividly the situation in his school. He complained that the teachers punished him and that the other children used to tease him. He admitted autoeroticism since the age of five, taught him by another boy. At school he used to get permission to go to the toilet several times a day in order to practice this habit. He also said that he indulged in various sex games with boys and girls, attempting "fellatio" and "cunnilingus." When he was about five years of age he slept with his little sister and they occasionally tampered with each other sexually. The boy's grasp of general information was good and he seemed to know that he was different from other boys.

During his stay in the hospital the patient remained extremely.

active and talkative. He took a great delight in speaking about his experiences, which were varied and numerous. He said that he saw visions of clocks and that the hands of the clocks were spirits. He spoke of a fear of being observed in handling his genitalia. It was noticed that the patient was hopping a good deal about the ward. He explained this by saying that he had imaginary lines in his head which he could see on the floor and that he had to step over these lines although he knew they did not exist.

In December, 1928, the patient continued to be extremely overtalkative, overactive, and spontaneous, with a complete lack of inhibitions. He was aimless and impulsive.

While in the ward, the patient contracted a slight infection of his big toe. Instead of trying to get rid of the infection, he interfered with the treatment so as to get another infection which he thought would give him additional prestige and attention.

On December 20, 1928, the boy was transferred to a state hospital.

On admission to the state hospital he was restless, and his conversation went from topic to topic. He was on the go most of the time. He looked distinctly "odd," much older and more sophisticated than his age. His conduct showed a great deal of variability and included overtalkativeness, mischievousness, a good many silly tricks, and, at times, preaching and talking to himself. It was quite apparent that the child had a very striking imagination. It was also noted that after some excited periods, the child tended to run a mild fever, ranging from 100° to 101°, which quickly subsided when he rested in bed.

Since the patient has been in the state hospital he has been at times very overactive, with a typical manic drive. He has spoken a great deal about the difficulty he has had with sex. He also has admitted hearing voices and seeing visions. It is interesting that on language tests the boy achieved a rating of eleven years, while on performance tests he received only a seven-year rating.

I saw him at the state hospital late in the summer of 1930. He was rather a tall, gaunt boy for his age, very erect. His talk sounded like an imitation of some of the New England dialects. He seemed more mature and serious than other boys of his age, but there was a certain stiffness and apathy in his appearance. The loss of spontaneity and vivaciousness, which were so characteristic of the boy before, was quite striking.

He spoke at length about his home and discussed, in detail, the family affairs. He did not seem to be especially anxious to remain at home and said that he was quite satisfied with the present arrangement whereby he spends about half of his time at home.

On first admission to the Boston Psychopathic Hospital the diagnosis was undiagnosed psychosis. When the patient was readmitted the diagnosis was changed to dementia praecox, whereas in the state hospital the diagnosis is psychosis with psychopathic personality. This variation in diagnosis is partly due to the fact that although the clinical picture in this hospital was one of an affective disorder, the fact that the child was quite different from an early age, and the fact that there were possible hallucinations, made one think of other diagnostic possibilities.

Case Number 55 (Kasanin, 1931). A. R., male, age twelve, school boy, white, admitted to the Boston Psychopathic Hospital February 2, 1926. Discharged February 9, 1926, to a state hospital. Diagnosis Manic-depressive, depressed. Hospital number, 24835.

Chief complaint. The patient was sent to this hospital because for some time he had been depressed and apprehensive.

Family history. The patient's grandparents were French-Canadian farmers, and were healthy, sturdy people. A paternal aunt suffered psychosis following the birth of a child. Patient's father was an artisan, and came to America at the age of twelve. From 1910 to 1917 he was in several state hospitals in Massachusetts where his condition was diagnosed as dementia praecox.

The patient's mother was treated in 1916 in the out-patient department of the Boston Psychopathic Hospital. At that time her diagnosis was psychoneurosis with a question of early general paresis. The patient's father is said to have died in 1919 when the patient was six years of age.

The patient is the third of four children. The older brother was treated for neurotic symptoms in an out-patient department of the Cambridge Hospital.

Personal history. During the pregnancy the mother was quite depressed and run-down. The patient was born February 15, 1913. Birth and early developmental history were normal. When he was two years of age he was at the children's hospital because of infectious diarrhea. The blood Wassermann tests were at times positive, at other times doubtful or negative. The patient was treated in the syphilis clinic at various periods until 1922.

As a child he played normally with other children and was a very friendly youngster. He loved outdoor sports and played very actively. He played with boys who were smaller than he. He also liked to play with his toys in the house.

In school his progress was not very satisfactory. He had no ambition

and did not care to do his work. He stood fairly well in his studies although he had some difficulty with arithmetic.

The patient masturbated until the age of six; then his mother told him that it was bad for his soul, bad for his body, and a mortal sin. He gradually stopped the habit. Between the ages of five and seven there had been some sex play with a little girl.

He was quite sensitive. He had a level temperament, was sociable, made friends easily, was energetic and lively. He was not a daydreamer but was fond of reading fairy tales. He was adaptable and got along well with other children and with his teachers. He liked to make things with his hands. The mother was very religious and the patient also seemed to be very religious and went to mass every morning. There has always been a great deal of pressure to see that the patient should go to church frequently.

Since early childhood the patient had been in constant dread of his father who at times came home and threatened their lives. The patient and the other children in the family were constantly afraid that the father might escape from the hospital. A year before admission the patient was boarded out by the family for economic reasons. The patient was always extremely devoted to his mother.

Present illness In September, 1925, the patient entered the House of the Angel Guardian. He bore the separation from his mother and the family with great difficulty. He was dissatisfied and lonesome. In January, 1926, he was unusually quiet and complained to his mother that he was always being watched and that the boys were teasing him. This was probably untrue. On January 30, 1925, the patient went to confession, but on the following day he cried and asked permission to go to confession again. The same thing happened on the following day. The confessions did not quiet him; he was crying and afraid. He had pilfered some grapes and candy, and apparently it worried him a great deal. When he was before the priest he was bashful and could not say anything. On February 1, 1925, he was brought home and put to bed. He seemed tired, slept for a while, and appeared to be thinking. He called his mother, told her that he was afraid, and that he was not pleasing God because he was stealing things. On February 2, he did not want to get up. When his mother decided to take him to the hospital he acted as if he were drunk. He drooped his head between his shoulders, leaned against his mother and complained of sickness. He walked slowly, dragged his feet and was very frightened.

On admission to the hospital the boy was found to be in good physical condition. A thorough neurological examination was impossible.

on account of lack of cooperation. An examination of urine and spinal fluid was negative.

In the ward, he was anxious and depressed. His eyes were filled with tears, yet he refused to answer any questions. He was preoccupied and at times almost stuporous. When the topic of taking the candy was discussed, he showed signs of deep emotion. It was impossible to say definitely whether he had or had not odd ideas or false sensory impressions. He cooperated very poorly in the examination of intellectual functions. The patient stayed in the hospital seven days, and a few days after his admission he became more cheerful and began to take some interest in some of the ward activities.

On February 9, 1926, the patient was committed to the Westborough State Hospital. He was quite weak and complained of a severe headache which followed the lumbar puncture at the Psychopathic Hospital. He was quite indifferent at first, but after a while he became more cooperative with his physicians. The hospital record states that the patient had auditory hallucinations on admission, but these gradually disappeared and the patient admitted that they were his imagination. The patient got along so well in the hospital that six weeks later, on March 29, 1926, he was discharged to his family.

The family sent the patient to some relatives in Canada for a short visit. In the fall of 1926 he was sent to an orphanage school in Lowell because there were no facilities to take care of the boy at home. He was taken back home in the spring of 1927, and placed again in public school. He did well in school but at home he was frequently dreamy, seclusive, and disobedient. The mother was very strict with him and would not allow him to go out with other boys. During the summer of 1928, the mother put him to work as an errand boy. He was disinterested in his work and used to skip off to the movies quite frequently. For this reason he lost several jobs. He continued with school in the fall of 1928. At home he was very stubborn, disobedient, and kept away from the rest of the family. In the winter of 1928-1929, the boy became very much interested in sex. He began to peek into the apartments of neighbors, watched girls dress, etc. He was quite an enigma to his family and never told them anything about his interests or aspirations. He did not even speak about the movies which he frequented a great deal. In April, 1929, the boy stole an automobile, and because he had been a patient before at the Psychopathic Hospital, the court sent him to the Psychopathic Hospital for examination.

The examination at the hospital showed a tall, lanky, well-developed young boy in excellent touch with his environment. His mood was quite appropriate and he showed no evidence of any odd ideas or

hallucinations. He was discharged back to the court, placed on probation, and since that time he has been working out of town, apparently getting along quite well.

It is interesting that, while at the Psychopathic Hospital the diagnosis on first admission was manic-depressive, depressed, the diagnosis at the State Hospital was dementia praecox, hebephrenic. The latter diagnosis was made on account of the hallucinatory experiences of the patient. In a case like this it is extremely difficult to unravel all the components which may have contributed to the patient's illness—poor heredity, congenital lues, extremely narrow religious upbringing, a rather special personality, and, finally, extremely serious environmental stresses

Causes.—Direct inheritance, or at least heredity of predisposing somatic factors, has been advanced as an important etiologic factor. In Table LXIX a few percentages of nervous and mental diseases in

TABLE LXIX —PERCENTAGE OF MANIC-DEPRESSIVE CASES HAVING NERVOUS AND MENTAL DISEASES IN DIRECT ANCESTRY OR IN COLLATERALS

| Author | No of Cases Per Cent | |
|---------------------------------|----------------------|----|
| Farr, Schwartz and Smith (1930) | 100 | 36 |
| Farr, Sloane and Smith (1930) | 100 | 40 |
| Matz and Willhite (1931) | 199 | 45 |
| Strecker, <i>et al</i> (1931) | 100 | 40 |
| Sunner (1922) | | 44 |
| Bonner (1931) | 100 | 50 |
| Lewis and Hubbard (1931) | 96 | 45 |
| | (Negro) | |

the families of manic-depressive patients are given. These figures include not only those patients whose immediate families showed an abnormality but also those where the abnormality was in grandparents, aunts, uncles, and cousins. Possible hereditary factors are found in certainly not more than half the manic-depressive patients. One must also keep in mind the question raised by Strecker, *et al.* (1931), from an analysis of their data, as to whether the transmission is a true heredity or whether the condition might not result from close association of the child with parents or others.

Studies in the fields of anatomic and physiologic pathology have not been unimportant, but they have not, as yet, yielded any very consistent or definite etiologic suggestions. The remarkable association of the pyknic type of body build, with its probable endocrine associa-

tion, and a manic-depressive psychosis definitely suggests that constitutional factors may be of importance.

Psychogenic factors, whether or not they rest upon constitutional ones, are of undoubted importance. In this group may be included both pre-psychotic personality and immediate precipitating factors. The manic-depressive in his pre-psychotic personality make-up is more commonly an extravert, in contrast to the schizophrenic who is oftener an introvert. Another frequent characteristic make-up is the cyclic type of changes in mood. The patient changes for no apparent reason from depression and moodiness to elation and a feeling of expansive well-being. This changeableness has given rise to the term *cycloid personality*, as distinct from the *schizoid* or *split-off* type of personality. These individuals customarily react to environmental stimuli with excessive emotion; they are submerged in grief at the loss of a friend or relative and are equally carried away with joy or elation on the receipt of good news. Henry (1925) suggests that such reactions are chiefly due to unhealthy habits formed largely in early home adjustments. White (1929), in explanation of this psychosis, says that the patient tries to escape his adjustment difficulties by a "flight into reality," i.e., by excessive activity which hides the true difficulty. If such a flight fails the patient is overwhelmed with remorse.

The precipitating factors may be many and varied. Deaths in the family, business worries, accidents, disappointments, or other trying and severe emotional experiences are not, in themselves, sufficient to cause a psychosis. But with the individual who has long tended to react with excessive affect to environmental stimuli, and who may have succeeded in inhibiting such reactions, more or less adequately, for a long period, an especially severe experience may, and frequently does, act as a precipitating cause of a psychotic reaction. Bonner (1931) found the following five groups of precipitating factors in a study of adult manic-depressives: friction and discord in the family, difficult financial situations, recent death in the family, serious anxiety for a member of the family, disappointment in love affairs. Kasanin (1931) found the precipitating factors in his small group of children's cases to be trivial.

Diagnosis.—In a previous section (page 535) we have given an outline of the chief criteria for a differential diagnosis between schizophrenia and manic-depressive psychosis. A history of pre-psychotic experiences and reactions will help to determine whether the person

was introverted and schizoid, or extraverted and cycloid, information which is important in diagnosis. Manic states occur in febrile deliria and in some toxic psychoses, but these must not be confused with the manic phase of the affective psychoses.

In children a clear clinical picture seldom occurs. In Kasanin's (1931) series of ten cases, seven were manic and only three depressed. The clinical pictures shown in the published case histories frequently suggest extreme behavior problems, or perhaps psychoneuroses. In none of the histories is there evidence of change from depression to mania, or vice versa. These cases clearly illustrate the difficulty of establishing a diagnosis in children. Furthermore, the normal behavior of children varies so widely that serious difficulty may not be recognized. Hamburger (1926) points out that the child is usually unable to verbalize his emotions and merely says he doesn't feel well, with the result that he is treated for a supposed organic disorder. On the other hand, as Ziehen (1917) shows, mild manic states are frequently undistinguished from normal hyperactivity of children.

Treatment—When the attacks occur at an early age the prognosis is relatively unfavorable. At older ages the prognosis for recovery from single attacks is good. Pollock (1931) analyzed over 8000 manic-depressive cases for recurrence of attacks. He found that in more than one-half of the cases there is no recurrence of sufficient severity to cause re-admission to the hospital; that patients younger than twenty years and older than forty years of age have more recurrences than those within these limits; and that the average duration of attacks increased irregularly with advancing age. Strecker, *et al* (1931), found the prognosis for recovery better among Jewish and Irish patients; it was also better when the first episode occurred before age 40, and when there was a predominance of manic reactions. Cycloid pre-psychotic personality did not indicate a more favorable prognosis, evidence of somatic disease was more frequent in unrecovered patients; and paranoid trends, stupor, suicidal trends, hallucinations, and delusion were prognostically unfavorable. These findings were, of course, on adult patients and there is no way of knowing how true they are for children.

Prophylaxis is of great importance in this condition, as it is in schizophrenia. As the introverted child must be helped to become more social and more extraverted, so the extraverted child must be trained in making more conservative social adjustments. The moody child, easily aroused emotionally, must be taught control and restraint

After the onset of, and during, attacks careful nursing care is most essential. Except when the attacks are extreme, occupational therapy is of importance. Hospitalization during attacks is usually preferable to the patient's remaining at home with well-meaning but non-understanding relatives. In the extreme maniacal states the patient must be protected against doing himself or others bodily harm, and during severe depressed states he must be protected from suicidal attempts.

Medical and surgical attention is, of course, necessary to keep the patient in the best possible physical health. Drug, endocrine, bacteriologic, serum, and surgical therapeutic measures have all been tried in dealing with the psychosis, *per se*, but with disappointing results. Drug and physiotherapy have value in dealing with symptoms, especially during excitement. Hinsie and Katz (1931) have published an excellent brief survey of the literature concerned with therapy in the manic-depressive states, in which questions of medical and other kinds of therapy are discussed.

Psychotherapy is of value in incipient stages and between attacks. Strecker and Ebaugh (1935) feel that talking things over with the patient even during an attack, provided the patient is accessible, has a definite value. In lucid periods the patient may be helped to see his situation, his mistakes, his poor methods of adjustment. Psychoanalysis has its adherents, but there is serious doubt as to whether a formal analysis is very helpful.

PSYCHOSES WITH ORGANIC PATHOLOGY

According to the data given in Table LXVIII, about 8 per cent of children under the age of fifteen years who are admitted to mental hospitals have some organic pathology basic to the psychosis. Neural pathologies included cerebral arteriosclerosis, general paresis, cerebral syphilis, Huntington's chorea, brain tumor, and other brain and neural diseases. In this last miscellaneous group there was 4 per cent of the cases, and less than one per cent in all the others. In a total of 26 per cent of the children a non-neural somatic pathology was the basis of the psychosis. The diagnosis and treatment of all of these are quite definitely medical problems and we shall not be further concerned with them here.

There is one condition in this group—juvenile paresis corresponding to general paresis—that should be mentioned here because of its behavioral concomitants. Juvenile paresis, first described by Clouston

(1877), is due to an invasion of the central nervous system by *treponema pallidum* or *spirochaeta pallida*, the pathogenic organism of syphilis. The syphilitic infection is often called hereditary although in any strict sense it is not. Rather, the fetus is infected *in utero* from an infected mother's blood stream.

This condition is rare, constituting only 0.2 per cent of children admitted to mental hospitals, a rate of less than 0.05 per 100,000 of the population of the same age. Not all children with congenital syphilis become paretic. Menninger (1930) says that probably under two per cent, Stewart (1933) about one per cent, and Schmidt-Kraepelin (1920) about 1.7 per cent of congenital syphilitics become paretic. From a summary of the literature, Davis (1935) calculated an average incidence for congenital syphilis at about four per cent in the general population. If we take this figure as approximately correct, we can calculate an incidence of not over 0.1 per cent for juvenile paresis in the general population. One reason for this low incidence is the extremely high mortality rate, which Davis (1935) calculated to be nearly 50 per cent. In an extensive study Junius and Arndt (1913) found a mortality rate of 71 per cent.

In comparison with those of adult paretics, juvenile paretic symptoms are not as clear cut, and are often masked by pronounced mental defect or epilepsy. However, physical symptoms of the disease do not differ so materially from those present in adult paresis. Stewart (1933) found that poor general bodily development or infantilism is common. Other physical characteristics are motor incoordination, such as shuffling gait and stumbling, increased knee jerks, tremor, disarthria and slurring of speech, inequality of pupils (in over 60 per cent of cases according to Stocker [1914] and Schmidt-Kraepelin [1920]), Argyll-Robertson pupil, illegibility of writing, and in about one-fourth (Moss and Hunt [1932]) of the cases are found convulsive seizures which may at first cause the condition to be diagnosed as epilepsy. The face becomes expressionless and dull, and there may be peculiar automatic chewing and sucking movements. Paralytic strokes have occurred.

Mental symptoms accompanying the disease are loss of memory, apathy, increasing stupidity, delusional trends (but rarely grandiose ideas), depression or excitement, and conduct maladjustments. In a study reported by Schmidt-Kraepelin (1920) it was found that in 39 cases of juvenile paresis one-fourth showed general arrest of develop-

ment and one-third were mentally deficient Mott (1899) reports 22 cases of juvenile paresis, most of whom were mentally deficient from birth. He also found a family history of syphilis in 80 per cent of 40 cases of juvenile dementia Stewart (1933) says that expansive and paranoid delusions are uncommon and that the usual clinical picture is one of simple progressive dementia

In a study of 40 cases, W. C. Menninger (1930) found confusion present in 62.5 per cent, auditory hallucinations in six per cent, paranoid delusions in 27.5 per cent, disorientation in 55 per cent; and 7.5 per cent had grandiose ideas He found that often the first mental symptoms were fighting, queer and unexplained actions, stealing, and truancy. Schmidt-Kraepelin (1920) found that character changes were among the early signs, emotionalism being common

Cause—As has been said, syphilis is the chief etiologic factor. The syphilitic infection is usually congenital, although an infection at a very early age may be responsible.² There is a serious question, however, as to why some congenital syphilitics develop paresis whereas the majority do not. A neurotrophic virus, the nature of the spirochaete, and the individual's personality make-up have all been suggested as the differentiating factor. As yet, there is no good evidence on this point

That the individual's personality make-up or life experiences may be of importance etiologically is suggested by the age of onset. Stewart (1933) says the condition most frequently occurs between ten and sixteen years. Kanner (1935) says that the first manifestation occurs most often in boys between eight and ten years, and in girls between ten and twelve years. The onset of the abnormal behavior picture may be, according to Menninger (1930), first, a "vague and indefinite development of the disease in a mentally and often physically inferior child which may be apparent at birth or soon afterward; second, a more or less acute break, after some years of normal development"

Diagnosis.—Behavioral signs include character changes, increasing disturbances in speech articulation, and an increasing dementia shown by decrease in test performance or school achievement. Neurologically the pupillary signs are of great significance. Serological examination should always be made. The blood Wassermann is usually positive, the spinal fluid Wassermann almost always so. Spinal fluid presents the

² Many psychiatrists prefer to keep this extremely rare condition a distinct entity and follow Klieneberger (1908) in calling it an early form of progressive paralysis.

characteristic paretic colloidal gold curve, pleocytosis and increased globulin.

Treatment—The prognosis is poor. Malarial treatment is not as successful with juveniles as it is with adults. Reeducation or other attempts at psychological therapy are probably not advisable unless, or until, the organic infection can be cleared up. Institutional care is always advisable, even at the beginning of the illness.

PART IV

PROBLEMS CORRELATED WITH ORGANIC
DISABILITIES

Chapter XIV

SENSORY DEFECTS

AMONG those children often spoken of as "exceptional," one of the larger groups is made up of individuals with sensory defects. Inasmuch as educational, vocational, and social adjustments according to conventional standards are dependent upon adequate contact with the social and physical environments, it follows that defects in any of the senses should present problems in behavioral adaptation. The child with a serious visual difficulty can be expected to have some trouble with reading and with any achievement which depends upon reading facility. The deaf child exhibits a retardation in learning to talk, and the child with partial loss of hearing may spend strenuous months or even years in futile effort to understand what the teacher is saying.

The basic problem in these cases is organic and its correction is the concern of the proper medical specialist. However, the psychological problems involved are sufficiently serious and of such a nature that the clinical psychologist is often confronted with them. Therefore it is expedient for us to consider these problems in some detail.

Of all the senses, two—vision and audition—are of probably greater significance in adjustment than any of the others. Even complete absence of taste (agusia) or smell (anosmia) is not particularly vital to social adaptations. Such conditions would, of course, make it impossible for the person afflicted to engage in a few occupations, such as being a tea taster or a perfumer. On the other hand, anosmia might make it somewhat easier to engage in the manufacture of glue and some other commodities.

Abnormalities in the cutaneous senses also occur, but they seldom interfere with relatively adequate adjustment. One boy, referred as a disciplinary problem, had exhibited no reaction to repeated, severe corporal punishment. His lack of concern over treatment that would ordinarily be painful was accounted for by his complete analgesia, or lack of pain sensitivity. Absence of pain sensitivity is frequently found

among feeble-minded children, especially among the lower grades Thiemich (1900) felt such a lack to be sufficiently common among the lower grades of feeble-mindedness to warrant his proposing analgesia to pin pricks as a diagnostic sign in the early years of life

VISION

It is estimated that about 85 per cent of our sensory contacts are made through the medium of vision. The possible significance of this

The Eye

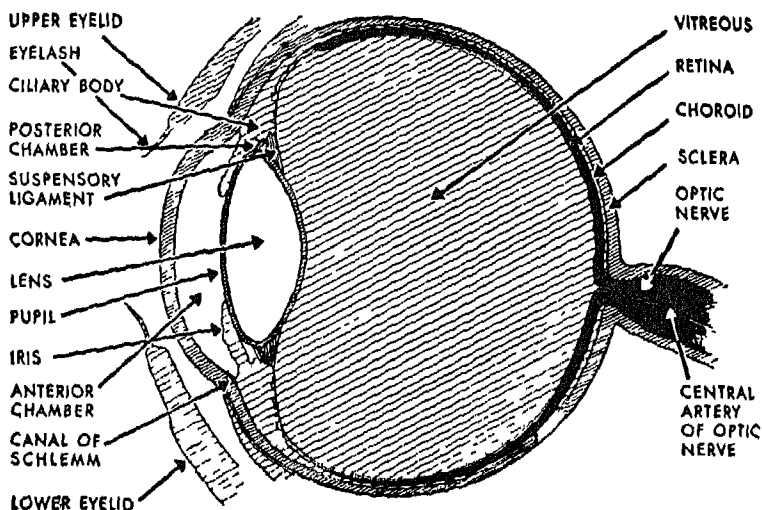


Figure 17.—Cross-section of the Human Eye (Courtesy Better Vision Institute)

sense in the etiology of certain psychological problems is obvious. Educational achievement, vocational adjustment, and social behavior patterns may all be influenced by defective vision. It will be our concern to inquire into the part played by vision in psychological problems. In order to understand the relationship, it is necessary to have in mind certain basic data concerning the eye and its functions, as well as the more common defects.

The Eye—A diagrammatic cross-section of the human eyeball is shown in Figure 17. Functionally, the eye is similar to a photographic camera, while structurally it is approximately a sphere partially filled

with a gelatinous substance, the vitreous humor, which serves to maintain its shape. The outermost wall is the fibrous sclera (white of the eye) which is modified to transparency in the forward part of the eyeball to form the cornea. Immediately inside of the sclera over somewhat more than the rear hemisphere is found the choroid, a vascular layer. Next there is a layer of sensitive receptor cells with their accompanying nerve cells, called the retina. The forward third of the eyeball contains a number of complex structures of which the following have pertinence here. The cornea, a transparent portion of the sclera, lies over a ring of pigmented smooth muscle tissue called the iris, the opening in the center of which is the pupil. Immediately behind this is an elastic crystalline lens suspended in a ligamentous ring which in turn is attached to the ciliary muscle. We may mention here also the eyelids and lashes which, while not a part of the eye, serve as a protective covering for the delicate cornea.

The operation of these various parts is easily understood if one keeps in mind that they all are directed to the one end of focusing light rays in the most accurate way upon the sensitive retina and more particularly on its most sensitive region, the macula. Light rays, when passing from one medium to another, are always bent or refracted to some extent. This is true when the light enters successively the cornea, the aqueous humor, the lens, and the vitreous humor, with the net result that, in a normal eye, the rays are brought to a sharp focus on the retinal layer. Two kinds of monocular accommodation control the admission and the course of light in the eye. With increase in the intensity of available light, or when clear definition is necessary as in close vision, the sphincter portion of the iris muscle contracts and makes the pupil smaller; with decrease in the light intensity, the muscle relaxes and increases the pupil size. Control of the focus of light rays depends upon the power of the lens to change its shape. When light rays from distant objects (twenty feet or more) reach the eye they are parallel and require less bending to converge on the retina. In this state, the suspensory membrane is taut and the lens is flattened. For near vision the rays which reach the eye are diverging. To correct for them, the ciliary muscle contracts and permits the ligaments supporting the lens to slacken. The elastic lens in this circumstance bulges more in the antero-posterior diameter, thus becoming convex to a degree sufficient to correct the initial divergence of the light rays.

Questions regarding the proper functioning of the eyes concern

not only their refractive or other optical functions, but also their movements. Attached to the sclera of each eye are six extrinsic muscles which control movements of that eyeball. These six muscles are,

- 1 external rectus, moves eyeball temporally
- 2 internal rectus, moves eyeball nasally
- 3 superior rectus, moves eyeball upward
- 4 inferior rectus, moves eyeball downward
- 5 superior oblique, moves eyeball downward and outward
- 6 inferior oblique, moves eyeball upward and outward

The coordinated contraction of different pairs of these muscles makes possible the movement of the eyeball in any direction. The innervation of the muscles of both eyes is such that normally the eyes move together. Thus, to move the eye horizontally to the right, the external rectus of the right eye and the internal rectus of the left eye contract together.

We have seen that in monocular vision accommodation takes place by movement of the iris and change in the size of the lens. But most vision is binocular, which requires a third type of accommodation movement. For distance vision (over twenty feet), the lines of sight of the two eyes are parallel. In order to see clearly objects less than twenty feet from the eyes, it is necessary that the two eyes converge or turn toward each other by the coordinated action of the two internal recti. This convergence of the eyes serves to keep the light rays entering the two eyes focused on corresponding points of the two retinas. For the details of the anatomy of the eye and the optic nerve, the reader is referred to any standard textbook on anatomy.

Visual Acuity.—As the purpose of the eye is to see, the chief concern is how well it does this. This efficiency of the eye is called visual acuity. With the normal eye and suitable conditions of illumination and attention, the smallest object which can be seen subtends an angle of one minute; e.g., if two black squares on a white background are separated by a distance subtending less than one minute of an arc they will be seen as one. The linear size of an object that subtends any given angle will depend upon the distance of that object from the eye. The simplest method of measuring visual acuity is with the standard letters of the Snellen chart which is described below (page 570).

Loss of visual acuity may be due to a number of causes. Refractive errors, opacities of the cornea or lens, pathology of the retina, or de-

fects in the optic nerve may all reduce vision. Some idea of the relative importance of various abnormal conditions in causing visual loss in children in sight-saving classes may be got from Table LXX. The

TABLE LXX — FREQUENCY OF VARIOUS EYE DISORDERS AMONG CHILDREN IN SIGHT-SAVING CLASSES

(After Myers)

| | Number | Per Cent |
|--------------------------------------|--------|----------|
| Refractive errors only | 1260 | 45.5 |
| Refractive errors with complications | 612 | 22.1 |
| Lens, cataracts | 158 | 5.7 |
| Lens, others | 24 | .9 |
| Cornea | 137 | 4.9 |
| Choroid and retina | 62 | 2.2 |
| Interstitial keratitis | 80 | 2.9 |
| Strabismus | 51 | 1.8 |
| Nystagmus | 82 | 3.0 |
| Nystagmus with complications | 122 | 4.4 |
| Miscellaneous | 183 | 6.6 |

data of this table are from Myers' (1930) excellent survey of these special classes. These figures can be taken only in a general way as they are condensed from Myers' table and therefore complications are concealed. They do, however, show the great importance of refractive errors in producing loss in visual acuity. Refractive errors are those in which the rays of light entering the eye are not properly focused upon the retinas. The diagrams in Figure 18 illustrate the errors in the focus.

In *myopia*, or nearsightedness, parallel rays are brought to a focus in front of the retina when accommodation is relaxed. This is usually because the eyeball is longer than the normal 23 mm, although occasionally certain conditions of the cornea or lens may be responsible. The condition is seldom congenital, but, according to May (1934), it "commences at an early age when, during the developing period, the eyes are used excessively or improperly for near work." Dr. Inglis Polloch (1916), as cited by Kerr (1925), found a rather regular increase in the percentage of myopia among school children in Govan, Scotland. Among five-year-olds the percentage was about two, and at 17 years it was slightly over 25.

Alling (1922) says, "If one has hypermetropia or astigmatism, he may read until he cannot see, yet he will never have any actual lesion of the eyes, but if you have myopia, you have a condition that may

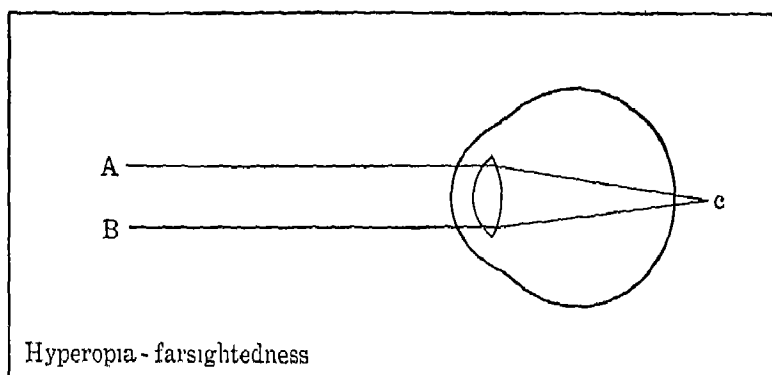
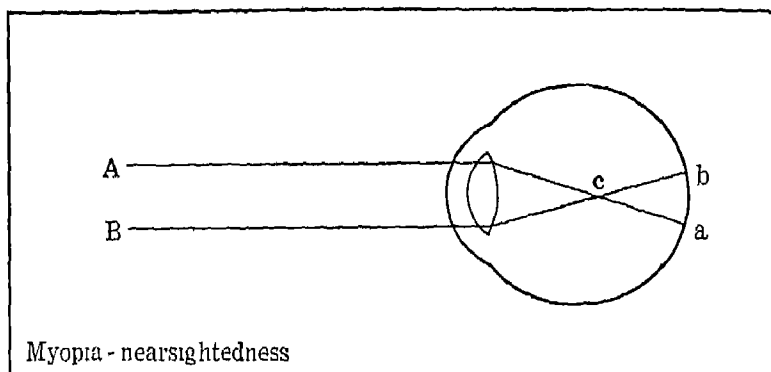
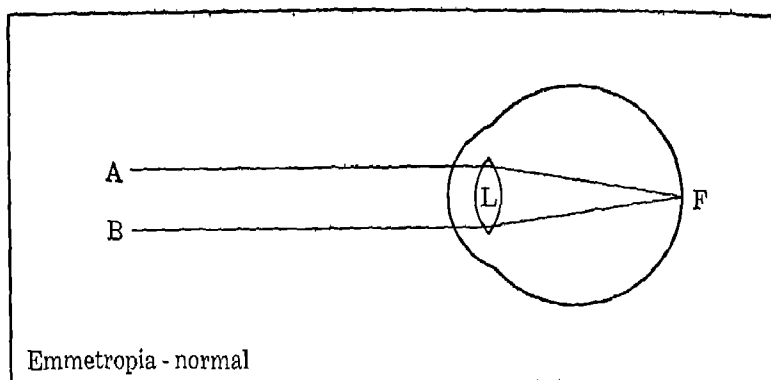


Figure 18 —Diagram of Light Rays in Refractive Errors

lead to some very serious damage, for it is a disease." This statement is only partially true because some cases of myopia are not progressive. However, in some cases the condition is progressive and may lead to serious damage of the retina, and therefore it is necessary to institute corrective measures. Such correction cannot be made biologically because the lens is unable to adapt itself, so that parallel rays are less refracted or bent on passing through it. Therefore, concave lenses must be used. Any child suspected of being a myope, because of poor distance vision or because a book is held close to the eyes, should always be referred for a competent ophthalmological examination. Furthermore, glasses should be checked at regular intervals because lenses of improper curvature may do greater harm than good.

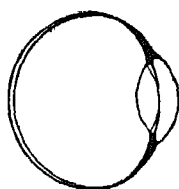
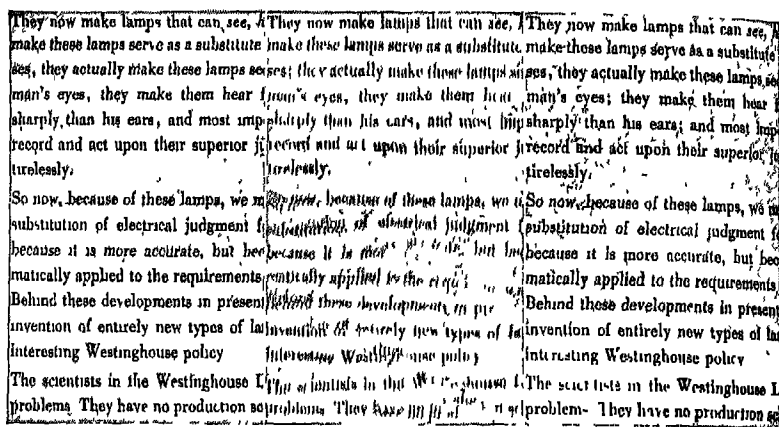
Hyperopia, or farsightedness, is caused by the eye being shorter than normal; here the refraction of the relaxed lens brings rays to focus behind the retina. It is therefore necessary for the farsighted eye to accommodate for distant, as well as for near, vision. As a result, too much near vision taxes the muscular power and results in fatigue and eyestrain. The normal infant eye is hyperopic; but with growth the antero-posterior diameter lengthens until the eye is emmetropic, and under certain conditions it may be myopic. Unlike myopia, hyperopia is never progressive. In fact, although the condition is the most frequent refractive error, it tends to be reduced with age.

In young children the power of accommodation is greatest; it decreases steadily throughout life. However, even the child's lens is incapable of extreme, prolonged accommodation such as is necessary in reading. The result is eyestrain and its accompanying evils. As Noyes (1914) says, "Glasses are necessary, not because the patient has farsightedness, but because his farsightedness is making eyestrain that must be cured." That hyperopia has an appreciable but lesser relation to loss of acuity than myopia is shown in the study of Kempf, *et al* (1928). They measured the refractive error with the accommodation relaxed by means of a cycloplegic. The relationship between the degree of error and visual acuity expressed in ρ 's was.

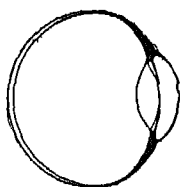
| | |
|--------------------|----|
| All children | 74 |
| Hyperopic children | 69 |
| Myopic children | 80 |

The third type of refractive error is *astigmatism*, a condition caused by defects in the lens or cornea—more frequently in the latter—which result in a difference in refraction in different meridians. Thus some

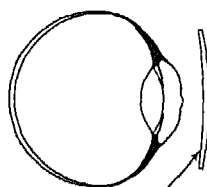
rays focus before, some behind, and some on the retina. Figure 19 illustrates the appearance of the printed page to an astigmatic eye. As astigmatism is apt to be associated with other refractive errors, especially with hyperopia, the child not only has a reduced acuity but



(1) The normal eye, with a smooth cornea, sees the image clearly, and in all its details



(2) A wrinkled surface on the cornea, like a wrinkled window-pane, blurs the image. This is astigmatism



(3) Eyeglasses will counteract astigmatism, making the image again sharp and clear.

Figure 19—Appearance of Page to the Astigmatic Eye (Courtesy Westinghouse Lamp Co.)

suffers from eyestrain. It is necessary that this, as well as all other refractive errors, be corrected with the proper lenses. The proper fitting of glasses is a technical ophthalmological procedure and should always be done by a competent specialist.

Of equal seriousness to the reduction of acuity and distortion of images caused by refractive errors is eyestrain or *asthenopia* caused by these or by certain other conditions. The common signs and symptoms of eyestrain as listed by Noyes (1914) are. "(1) rapid fatigue of

eyes during reading, writing, etc ; (2) headache, sick headache, (3) pain in the eyes; (4) blurring of print, (5) feeling of sand in eyes; (6) pain in the back of the neck and between shoulders; (7) difficulty in fixing attention or concentrating one's mind on reading matter, (8) tendency to rub and press on the eyeballs; (9) redness of the edges of the lids, (10) accumulation of bran-like masses on edges of the lids, (11) double vision; (12) dread of light; (13) dizziness; cross-eye; (14) nausea, (15) floating spots before eyes; tearing, car-sickness, blindness in one eye, various neuralgias, brain fag; drowsiness, (16) twitching of the lids; (17) a tendency to the development of sties in crops, (18) many serious, destructive, and inflammatory conditions affecting all of the tissues of the eyeball." Many of these are observable by the classroom teacher and some by the psychoclinician even without a special examination. The presence of any of these symptoms should justify having the necessary special examinations made.

Simple or complicated refractive errors accounted for 67 per cent of the children in sight-saving classes. In the second largest group, 23 per cent of the children, pathology of various parts of the eye was the cause of visual loss. Such pathologies included a large number of conditions, many occurring only once, these are included under "miscellaneous." Among the more frequent were the following cataracts, mostly congenital, caused by bits of opaque embryonic tissue remaining in the lens, lenticular and corneal abnormalities resulting from injury or disease, disease of the retina and choroid coat, interstitial keratitis, a cellular infiltration of the deep layers of the cornea usually caused by congenital syphilis. We can do no more than call attention to these conditions which cause loss in visual acuity.

The third class of eye disorders which interfere with the child's visual adjustment relates to eye movements *Nystagmus*, which is reported in at least seven per cent of Myers' cases, is an involuntary jerking movement of the eyes in any direction May (1934) says that most cases start in infancy when, because of a reduction in visual acuity, the child does not learn to fixate properly. Usually infantile cases are not amenable to treatment although correction of refractive errors may help; sometimes the movement becomes less marked with advance in age.

Strabismus or squint (cross-eyes), a grossly observable symptom, is

frequently defined as a deviation of the visual axis of one eye from its correct position of fixation. Worth (1921) says that a defect in the fusion faculty is also always found. In addition, there may be suppression of vision in the non-fixating eye, amblyopia in the deviating eye; and usually there is a refractive error, commonly hyperopia. The cause of the condition may be paralysis of the eye musculature, or it may be an unequal refractive power of the two eyes. Worth holds that far more important than either of these is a lack of development of binocular fusion in early infancy. Therefore, either surgical, optical, or orthoptic attempts to correct the condition should be instituted at as young an age as possible.

The psychological significance of this condition we have pointed out in connection with reading disabilities and also in Case Number 14. There may also be personality disturbances because of the child's embarrassment or resentment of other children's taunts, as well as his own feelings of inferiority based upon the defect.

Optical or surgical treatment of the condition does not concern us here. Orthoptic training is a pure training problem and is therefore of psychological interest. However, it would take us too far afield to describe these methods, which were first devised by Worth in 1903 and which have since been greatly elaborated. Guibor (1934) has prepared an excellent description of the methods, together with a brief review of the literature.

Blindness is a severe but not exactly defined degree of visual loss. Absolute blindness may be taken to be a complete inability to perceive light. Practically, this is a useless definition because a much less severe degree than this makes it impossible for the person to make adequate adjustments. Blind persons may be able to perceive forms or motion at near distances (three feet), read the largest Snellen letter at less than twenty feet, read large headlines at near distances; those on the border line may have acuity better than 20/200 but not sufficient for ordinary visual affairs. Such blindness may be congenital—in fact, certain types are possibly hereditary—or it may occur at any age. In children the problems of the blind and the partially seeing are somewhat different so we shall comment on them separately.

Statistics.—In Table LXX above we have shown data on the causes of visual defects in children attending special classes for the visually defective. Of equal interest are data illustrating the prevalence of visual defects in all school children. Most available data are based on

SENSORY DEFECTS

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TABLE LXXI.—PERCENTAGE OF CHILDREN OF VARIOUS AGES WITH SPECIFIED REFRACTIVE CONDITIONS

| Age Last Birthday | Total Hyperopia | Total Myopia | Total Astigmatism | Emmetropia | Hyperopia | Simple Hyperopic Astigmatism | Compound Hyperopic Astigmatism | Mixed Astigmatism | Compound Myopic Astigmatism | Simple Myopic Astigmatism | Myopia |
|-------------------|-----------------|--------------|-------------------|------------|-----------|------------------------------|--------------------------------|-------------------|-----------------------------|---------------------------|--------|
| All Ages | 88.3 | 6.9 | 27.7 | 3.4 | 63.4 | 2.7 | 22.2 | 1.4 | 0.9 | 0.5 | 5.5 |
| 6-7 | 94.6 | 1.4 | 19.7 | 1.8 | 77.1 | 7 | 16.8 | 2.2 | 3 | 5 | 1.4 |
| 8-9 | 94.2 | 4.2 | 27.6 | 3 | 68.7 | 3.4 | 22.1 | 1.3 | | 1.6 | 3.4 |
| 10-11 | 86.2 | 8.5 | 32.4 | 2.1 | 59.0 | 2.7 | 24.5 | 3.2 | 5 | 1 | 6.4 |
| 12-13 | 85.6 | 9.1 | 28.2 | 4.5 | 59.0 | 2.8 | 22.9 | 9 | 1.5 | 1 | 7.4 |
| 14 and over | 82.9 | 9.1 | 30.6 | 7.1 | 55.6 | 3.2 | 24.1 | 9 | 1.5 | 9 | 6.8 |
| Number of cases | 1642 | 128 | 515 | 64 | 1179 | 50 | 473 | 26 | 17 | 9 | 102 |

examinations of children without relaxation of the muscles of accommodation Kempf, *et al.* (1928), studied the acuity of 1860 Washington school children with a cycloplegic, i.e., a drug which temporarily paralyzes the intrinsic eye muscles and relaxes accommodation. Under these conditions only 3.4 per cent of the children were found to have an emmetropic or normal right eye. Table LXXI, reproduced from this report, indicates the prevalence of various refractive errors and the change in their incidence with increasing age. For ordinary purposes examinations are made without a cycloplegic. While the data in Table LXXI indicate a high percentage of abnormal eyes, most of these are not sufficiently abnormal to cause defective vision. The Committee on Special Classes of the White House Conference (1931) reports the following percentages of visual conditions among school children.

| | |
|-------------------------|----------------|
| Normal vision | 80.00 per cent |
| Correctible eye defects | 19.75 " |
| Partially seeing | 0.20 " |
| Blind | 0.05 " |

Estimates of the ratio of children needing special sight-saving class attention to the total school population vary from the very conservative 1 per 1000 to the more widely accepted 1 per 500. In a survey of 95 cities with such classes, the median ratio was found to be 1 to 659, while the range was from 1 per 100 to 1 per 4343. These figures represent actual existing ratios in school systems and are greatly influenced by questions of financial support, community interest, and the like. Pratt (1926), in her survey of about 8000 school children in Jamestown, N. Y., found that "about one in every 286 of the school population had sufficiently defective vision to warrant segregation in sight-saving class," and points out that the estimates of 1 per 500 are too conservative.

In this survey, Dr. Pratt found the following distribution of eye conditions:

| | |
|---|-------------|
| Normal vision 20/20, 20/15 and 20/30 without eyestrain | 48 per cent |
| Slightly defective 20/15, 20/30 with eyestrain or other abnormality, and 20/10 with or without eyestrain | 42 " |
| Seriously defective 20/40 and less | 10 " |

Wood (1930) surveyed the vision of 982 pre-school children and found the eye conditions shown in Table LXXII.

TABLE LXXII—EYE DEFECTS FOUND IN PRE-SCHOOL CHILDREN

| Condition | Per Cent |
|--|----------|
| Refractive error | 18.1 |
| Squint or muscle imbalance | 4.7 |
| Inflammation of lids or conjunctiva | 2.8 |
| Abnormal condition of eyeball | 1.4 |
| Total abnormalities (excluding duplicates) | 20.9 |

Collins (1924) reported data based upon the examination of 9245 school children from six to sixteen years of age. For the total group the percentage of defects found was similar to those already reported: 27 per cent moderately defective and 10 per cent rather seriously defective. His data, shown in Table LXXIII, show a slight increase in the percentage with normal vision, a decrease in the slightly defective, and a decided increase in the seriously defective.

TABLE LXXIII—DISTRIBUTION OF VISUAL ACUITY BY AGE

| Age | (1) | (2) | (3) | (4) |
|-------------|------|------|-----|-----|
| All ages | 62.9 | 27.1 | 6.1 | 3.9 |
| 6 and less | 58.3 | 32.1 | 7.6 | 2.0 |
| 7 | 58.6 | 31.4 | 7.2 | 2.8 |
| 8 | 60.2 | 30.6 | 6.8 | 2.4 |
| 9 | 60.3 | 31.8 | 5.5 | 2.4 |
| 10 | 62.8 | 26.3 | 6.2 | 4.6 |
| 11 | 62.4 | 27.7 | 6.1 | 3.8 |
| 12 | 66.7 | 23.0 | 5.6 | 4.7 |
| 13 | 67.7 | 20.5 | 6.0 | 5.8 |
| 14 | 66.2 | 24.3 | 5.0 | 4.5 |
| 15 | 67.2 | 21.3 | 5.6 | 5.9 |
| 16 and over | 65.5 | 21.7 | 3.9 | 8.9 |

(1) $\frac{10}{10}$ or $\frac{20}{20}$ both eyes

(2) $\frac{6}{10}$, $\frac{7}{10}$ or $\frac{8}{10}$ one eye and $\frac{6}{10}$ or better in other = $\frac{20}{30}$ or $\frac{20}{25}$ in one and $\frac{20}{30}$ or better in the other

(3) $\frac{4}{10}$ or $\frac{5}{10}$ in one eye and $\frac{4}{10}$ or better in other = $\frac{20}{50}$ or $\frac{20}{40}$ in one and $\frac{20}{50}$ or better in the other

(4) $\frac{3}{10}$ or less in one or both = $\frac{20}{70}$ or less in one or both

The number of blind children is much less than the number of partially seeing. In the U. S. Census Bureau (1931) report we find the

enumerated blind children shown in the second column of Table LXXIV.

TABLE LXXIV —NUMBER OF BLIND CHILDREN

| Age | Number | Per Cent of Total Blind | Rate per 1,000,000 General Population of Same Age |
|----------------|--------|-------------------------|---|
| Under 5 . . . | 504 | 0.8 | 43 |
| 5-9 . . . | 1113 | 1.7 | 88 |
| 10-14 . . . | 1814 | 2.9 | 150 |
| 15-19. | 2039 | 3.2 | 174 |

VISUAL TESTING

We have emphasized again and again that physical examinations and diagnosis must be made by the physician. Visual defects are wholly problems of medicine; therefore, the psychoclinician cannot undertake eye examinations. However, the determination of visual acuity may be satisfactorily made in the psychological clinic or in the school. The psychologist should also be alert to possible signs of eye trouble which may be evident in the children he examines.

Measurements of visual acuity are made with the Standard Snellen Test Types, reproduced in miniature in Figure 20. The uppermost letter subtends a five-minute angle—the width of each limb subtending one minute—at a distance of 60 meters or 200 feet. The standard distance is conventionally taken at 6 meters or 20 feet. Rogers (1924) gives the following directions for the use of the chart: "It should be placed, preferably, so that the child can stand twenty feet from it. It should be placed at about the height of the eyes and in a good light which does not shine in the pupil's eyes but comes from the side. If placed near a window at the front of the room, the light on a fair day from a side window will usually furnish good illumination. The child should be placed at the desired distance and a piece of stiff card held in front of (not against) one eye, and he should be asked to read the letters, beginning with the larger ones." As daylight illumination as described by Rogers may vary greatly during different hours of the day and from day to day, a more uniform source of light is desirable. Pratt (1926) describes a simple board with shaded lights at the top and bottom designed to provide a uniform, non-glare illumination of about ten to twenty foot candles. In a clinic the chart can be perma-

nently mounted with proper illumination, and a line twenty feet from it marked on the floor. The child is then placed toeing the line. May (1934) suggests that, when the room is less than twenty feet long, the

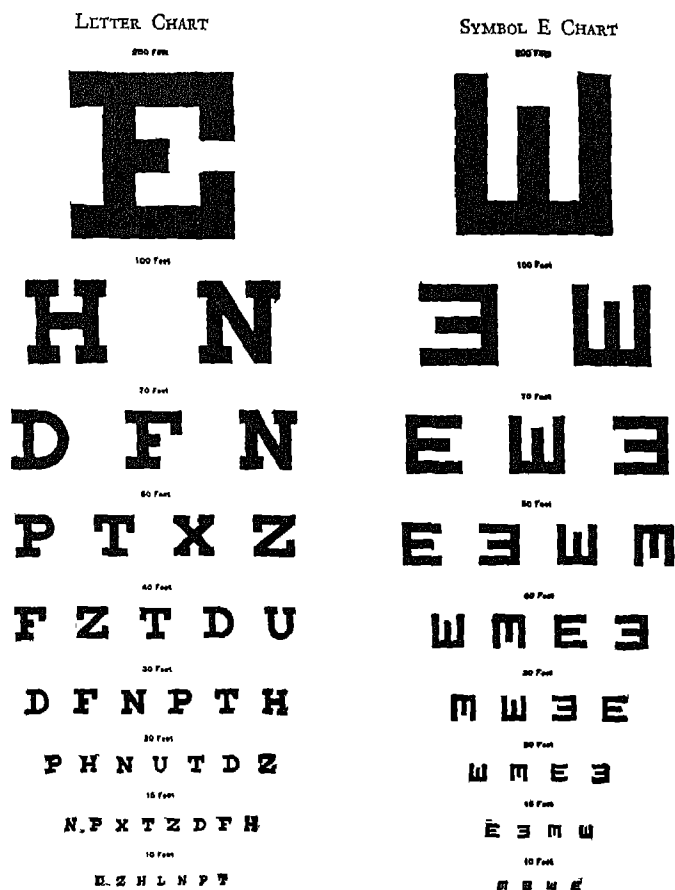


Figure 20—Snellen Visual Acuity Test Charts¹ (Courtesy National Society for the Prevention of Blindness)

card be placed back of the child, who then reads the letters from the reflection in a mirror ten feet from his eyes.

The acuity of vision is expressed as a fraction, the numerator of which is the distance of the chart from the eyes (preferably and conventionally twenty feet). The denominator is the distance the line of

¹ Charts are drawn according to the Snellen scale

smallest letters read, should be read by the normal eye. Thus normal sight is expressed as $\frac{20}{20}$, if the child can read only the letters for 30

feet the acuity is $\frac{20}{30}$; if he can read the line for 15 feet his acuity is

keener than the average and is expressed by $\frac{20}{15}$. While these measures

are expressed as fractions they do not represent fractions of visual loss. The percentage efficiency and visual loss for various Snellen fractions as worked out by the Section on Ophthalmology of the American Medical Association are shown in Table LXXV. Children with acuity

of $\frac{20}{70}$ or less in the better eye after proper refraction should be given special attention.

TABLE LXXV —PERCENTAGE OF VISUAL LOSS FOR VARIOUS ACUITY FRACTIONS

| | Per Cent | |
|--------|------------|------|
| | Efficiency | Loss |
| 20/20 | 100 0 | 0 0 |
| 20/30 | 91 5 | 8 5 |
| 20/40 | 83 6 | 16 4 |
| 20/50 | 76 5 | 23 5 |
| 20/70 | 64 0 | 36 0 |
| 20/100 | 48 9 | 51 1 |
| 20/200 | 20 0 | 80 0 |

For measurements of acuity in near vision, use is made of Jaeger's test types which are different sizes of ordinary type faces. However, these have not been well standardized and the sizes vary, as is shown in a report of the U. S. Public Health Service (1931).

In addition to determining visual acuity, the examiner should look for evidence of eyestrain as listed on page 565. The following hints for teachers which Berkowitz (1920) attributes to Dr. G. T. C. Nash are valuable for the psychoclinician: "Defective eyesight may be suspected when a child (1) in a back row cannot read what is written on the blackboard; (2) cannot tell the time by the clock at a little distance; (3) fails to keep to the lines when reading; (4) misses out small words when reading; (5) habitually holds a book nearer to the eyes than 12 inches when reading; (6) complains that the letters run into one another; (7) squints, even if only occasionally; (8) complains of tiredness of the eyes or of frontal headache after reading or sewing."

All children exhibiting the following should be referred to an oculist or ophthalmologist, according to Rogers (1929):

1. With strabismus, cross-eyes.
2. With evident eye diseases, as shown by redness of the eyes or lids, crusts on lashes, watering of eyes or other discharges from them, and sensitiveness to light
3. With signs or symptoms of eyestrain (see page 565)
4. Who do not, under proper illumination, read with each eye the 20/30 line on the Snellen chart Pratt (1926) would also include children with acuity of 20/15 plus eyestrain, and all those with 20/10 with or without eyestrain

If specialized medical service is not available to the clinic, the parents of the child should be strongly urged to have the eyes taken care of. Adequate corrective measures taken at an early age not only make the child's adjustment to school easier, but also may save him serious trouble at a later age

PSYCHOLOGICAL PROBLEMS OF VISUAL DEFECTS

It is evident that defects in a sensory field as intimately related to behavior as vision will have a widespread relation to psychology. The whole interactional setting is changed for visually defective persons, and they are forced to make their sensory contacts through different sense media; they are at a disadvantage in a world primarily organized for persons who can see. Our concern is not with all psychological questions related to blindness and reduced vision, but with those which specifically interfere with the child's adjustmental development. Such a discussion may be divided into three parts dealing, respectively, with intelligence, personality, and educational achievement.

In the psychoclinical examination of any child the possibility of visual difficulties must be inquired into. When the problem is the examination of a child known to be visually defective, the interpretation of test results and histories must be made in the light of possible effects of the condition. For example, in Case Number 14 the poor maze test performance was due to the uncorrected visual defect and not to subnormal ability or instability. The very nature of the defect may introduce into the parent-child relationship elements of over-indulgence which are perhaps more undesirable with these children than with those who see normally. A consideration of possible influ-

ences of visual defects in the three fields previously enumerated will indicate variations necessary in clinical interpretation

Intelligence.—The only available report on the intelligence of visually defective children is to be found in Myers' (1930) study. On his pupil reports filled in by sight-saving class teachers, Myers asked for the I.Q. if a "psychological test" had been given, if none had been given the teacher was to express her own judgment of the pupil's ability. As the name of the test from which the I.Q. was secured was not asked for, there is no way of determining how accurate any reported value was. Myers comments that the low values reported may mean that some were obtained from group tests which might penalize the visually subnormal. After his report was written, individual sheets were secured from sight-saving classes in Cleveland for 263 children, for 261 of whom I.Q.'s were reported. This would suggest that this school system routinely examines all children sent to these classes, and therefore the Cleveland data may be more significant than those for the total group. The teacher's judgment, the third source of information on the children's intelligence, tended to be high so that the distribution was skewed in the opposite direction. In Table LXXXVI the three sets of data are presented, combined percentages being calculated by the present author.

TABLE LXXXVI—INTELLIGENCE OF VISUALLY DEFECTIVE CHILDREN
(After Myers)

| I Q | 709 Pupils General | | 261 Pupils Cleveland | | Total | | Teacher's Judgment | | | Combined | | Theoretical |
|-----------|-----------------------|-------------|-------------------------|-------------|-------|-------------|-----------------------|------|-------------|----------|-------------|-------------|
| | No | Per Cent | No | Per Cent | No | Per Cent | Class | No | Per Cent | No | Per Cent | |
| Below 70 | 93 | 13.1 | 1 | .4 | 94 | 9.7 | deficient | 109 | 5.5 | 372 | 12.6 | 7 |
| 70-80 | 146 | 20.6 | 23 | 8.8 | 169 | 17.4 | | | | | | |
| 80-90 | 179 | 25.2 | 66 | 25.3 | 245 | 25.3 | poor | 282 | 14.2 | 527 | 17.8 | 13 |
| 90-110 | 224 | 31.6 | 149 | 57.1 | 373 | 38.6 | fair | 655 | 32.9 | 1028 | 34.8 | 60 |
| 110-120 | 45 | 6.3 | 18 | 6.9 | 63 | 6.5 | good | 716 | 36.1 | 779 | 26.4 | 13 |
| 120-140 | 22 | 3.1 | 4 | 1.5 | 26 | 2.7 | superior | | | | | |
| Above 140 | 0 | 0 | 0 | 0 | | | | 224 | 11.3 | 250 | 8.4 | 7 |
| Total | 709 | 100.0 | 261 | 100.0 | 970 | | | 1986 | 100.0 | 2956 | 100.0 | |

The Cleveland data show a more nearly normal distribution than either of the others, but even here there is a slight skewness to the right, i.e., the lower scores are more frequent. Skewness in the same

direction is pronounced in the data based on reports from various cities. This may be due in part to the tendency to have only apparently retarded children examined, which prevails in many communities. Contrasted with these data are the teachers' judgments, which are skewed to the left. When all of these data are combined the distribution is still skewed a little to the right, but the percentage of average children is reduced, and both subnormal and supernormal groups are increased. The variations can be readily seen by comparing any percentage column with the last column showing the theoretical distribution.

From these data it is evident that visually defective children tend to be a little below average in test performance. This may be due to a real lack of the ability required on tests, or it may be that available tests too severely penalize the visually defective child. That the latter is probably true to some extent is shown by the performance of the blind on specially prepared tests. In any case, the implications of the findings for clinical psychology are two: (1) one can expect normal or better intelligence in a very slightly lower proportion of visually defective children than in seeing children, and (2) great care must be used in examining, and in interpreting the examinations of, visually defective children.

The recognition of the inadequacy of the ordinary tests when used with the blind early led R. B. Irwin (1914) to attempt to devise a special examination for them. This first attempt showed the possibilities but was itself unsatisfactory. As the author himself said (Hayes, 1920), "The test sheets were printed with the view of testing the tests and not the subjects." Haines (1916) published a better standardized scale, and in 1930 Hayes offered a satisfactory adaptation of the Stanford-Binet for the blind.

Hayes (1920) reports the distribution of intelligence among 670 blind children when measured by an early form of the Irwin-Binet tests. The figures, shown in Table LXXVII, may be compared with those found among Terman's (1916) unselected children. However, serious errors are possible in such a comparison. Direct comparison is unfair because the blind were examined with a test that admittedly was not as suitable for the blind as the Stanford-Binet was for the seeing. Also the greatest differences in percentage are found below the average group, and it is just here that it is most difficult to interpret test results. If one wishes to say merely that blind children have lower test

TABLE LXXVII—INTELLIGENCE OF BLIND CHILDREN

| | Per Cent | |
|---------------|----------|---------|
| | Blind | Sighted |
| Genius | 0 3 | 0 5 |
| Very superior | 1 0 | 2 0 |
| Superior | 5 0 | 9 0 |
| Average | 68 0 | 76 0 |
| Dull | 12 0 | 8 0 |
| Border-line | 7 0 | 2 0 |
| Feeble-minded | 5 0 | 0 3 |

performances than seeing children, all is well. If, instead, one interprets test scores as measures of "intelligence" and concludes that the blind children are intellectually inferior, then he may well be doing them an injustice.

Hayes, who has perhaps studied the blind more carefully in this respect than anyone else, reported in 1929 that with even his later revision of the tests, the median IQ of the blind was around 90; and Sargent (1924) reported median IQ's for various blind groups to range from 89 to 98. In another study Hayes (1923) demonstrated that the median IQ's of sixteen groups determined by the age at which vision was lost ranged between 85 and 105, with no trend evident, from which he concluded that the length of time the individual enjoyed sight had no effect upon intelligence. From the evidence at present available it would seem wise to conclude that the distribution of intelligence in a suitable unselected sampling of blind children would be as normal as among a similar sample of seeing children. Only a start has been made in adapting tests for blind subjects; therefore the cautions suggested above for testing children with partial vision apply with equal or greater force.

Personality—Judging from the paucity of reports, the study of personality development and disorders among blind children and those with partial vision is a fertile field for psychological research. We might well expect the visually handicapped child to present the same sort of personality and conduct difficulties as are found among seeing children, plus qualitatively and quantitatively different ones that are more or less directly related to the poor vision. Hathaway (1920) describes a delinquent boy whose conduct was an overt expression of

his feeling toward a society that forced him to undertake educational work suited to his chronological and mental ages, but which he consistently failed in because of a serious, and unrecognized, visual defect. In the following case a refractive error was at the basis of a whole series of behavior problems.

Case Number 56 (Kanner and Lachman, 1933) D. B., an eight-year-old twin, the youngest of a large family, was brought to the clinic with the complaint of enuresis (almost every night) and evening headaches, largely frontal and on the left side. When younger, he had been quite a feeding problem and even at his present age was rather particular about his food.

Frequently he walked and talked in his sleep. In school he progressed poorly and was then repeating the second grade. Spelling and arithmetic were all right, but the chief difficulty was with reading. For several months after an attack of measles he complained of pain in the chest.

Routine physical examination disclosed that he was about nine pounds underweight and had one carious tooth.

The family background was rather unstable. The father, forty-six years old, a traveling salesman, was nervous, easily excited, and had been separated from the family for the past seven years. He not only was a heavy drinker and did not support the family for the past seven years, but he was morbidly jealous and always a disturbing factor. Of the eight children, another child had had enuresis and sucked her thumb. The other twin does not do well in school.

The patient was delivered by breech presentation and had some cyanosis and "spells" the first two days. At two years he had varicella, at three years, otitis media and whooping cough. Tonsillectomy was followed by several convulsions at four years, and recently he has had measles. The right ear was still draining somewhat.

When first seen, the boy had an intelligence quotient of 82 and a mental age of 7 years, 2 months (a retardation of $1\frac{1}{2}$ years). Two months later he was interviewed again. In the meantime, his eyes had been refracted and glasses prescribed. As a result, he was reading better, the enuresis was decreasing, and he had dry periods of from two to three weeks' duration. The school reports were improved, he had not been walking in his sleep, and the feeding difficulties had practically disappeared. Since wearing glasses, he had complained of no headaches. In addition, his intelligence quotient advanced to 88 and his mental age to 7 years, 8 months. Less than one month later his intelligence quotient was 94 and practically normal. During a

period of three months, therefore, his mental age advanced fourteen months. When seen very recently, the child was alert and self-confident, and there were no difficulties reported by the mother.

Similar cases could probably be cited from the records of almost every psychological clinic. As yet, however, we have no intensive investigation of visually handicapped children in sight-saving classes or in regular classes. Administratively, such studies would be of value because of the need for knowing the relative effects on the child of competition with other visually handicapped children, with seeing children, or with both. Surely repeated failure in school discourages a child, perhaps more so when he realizes it is an unequal competition. On the other hand, as the visually handicapped individual must learn to make adjustments to seeing persons, a too strict segregation may also have untoward results.

Best (1934) remarks on the common query, whether the blind are "unhappy" because of lack of sight, that, "speaking for the larger number of them, they do not spend themselves in bemoaning their fate, or give themselves to constant dwelling upon their affliction. Many appear undiscouraged, and have an abundance of cheerfulness." Muhl (1930), in a psychiatric study of children in the California School for the Blind, found the chief characteristic was a lack of initiative caused more by emotional blocking than by the physical defect. Worry, feelings of inferiority, sometimes with compensatory mechanisms, and a varied wish-fulfilling phantasy life were found with some frequency. Fladeland (1930) observed 126 blind children who had been referred for speech correction, and found that blindness might accentuate personality traits but it apparently gave rise to no unique ones.

Among blind children certain habit spasms and mannerisms are frequently noted which have become known as "blindisms." Merry (1933) lists the commoner of these as rocking the body back and forth, putting fingers or fists into eyes, twirling rapidly round and round, shaking fingers before the face and holding the head bent forward. Ritchie (1930) presents the most widely accepted theory, that these mannerisms are substitutes for physical activity that is thwarted by blindness; Lewis (1916) feels that certain of them, e.g., putting the fingers in eyes, may be caused by ocular irritation. Like tics and habit spasms in the seeing, every effort should be made to prevent the appearance of these mannerisms.

Although we know all too little about behavior difficulties of visually handicapped children, the psychoclinician dealing with this type of child must always keep in mind the possible influence of the physical handicap. Similarly, in handling any type of children's problems he must be alert to the possible significance of recognized or unrecognized visual difficulty.

Educational Achievement—The dependence of academic achievement on reading skill and the necessity of vision in reading underlie the educational retardation found among visually handicapped children. To a great extent this situation may be ameliorated by special educational procedures, but, unfortunately, these are not ordinarily available in the regular schoolroom. In Table XXII it was noted that from 25 to 30 per cent of school failures were attributed to defective vision. Keyes (1911) reports the following percentages of children who repeated the various grades as having defective eyesight:

| Grade | Per Cent |
|-------|----------|
| I | 36 |
| II | 30 |
| III | 39 |
| IV | 40 |
| V | 37 |
| VI | 40 |
| VII | 24 |
| VIII | 19 |
| IX | 18 |

Myers (1930) reports, for a group of 155 pupils in Chicago sight-saving classes, a promotion rate of 73.1 per cent while in the regular class, whereas in the special classes the rate for the same children was 84.9 per cent. The promotion rate for 2013 children in sight-saving classes was 87.8 per cent, which compares favorably with the rate for normal children. From this we may reasonably conclude that the retardation of children with partial vision in the regular grades is due in large measure to inadequate teaching methods.

The above contrast of the promotion rates for visually handicapped children is not an entirely true picture of their academic success. If we use being over-age as an indication of academic retardation, the visually handicapped are in a decidedly unfavorable position. Myers reports the following percentages for his 2013 children:

| | Under-age | Normal | Over-age |
|-----------------------------------|-----------|--------|----------|
| At time of entering special class | 8.3 | 60.6 | 31.1 |
| At time of survey | 7.2 | 56.6 | 36.2 |

In spite of the practically normal promotion ratio in the special classes, there was an increase in the proportion over-age for grade. Myers does not attempt to explain this, nor can we. A more important problem is that about a third of these visually handicapped children were over-age for their grade. Regardless of satisfactory progress in the sight-saving class, this means that these children will not complete their academic training until they are a year or more older than equally able sighted children. This adds a further difficulty in making suitable social and vocational adjustments.

A further interesting finding of Myers shows the best and poorest subjects of the sight-saving class pupils. Arithmetic, reading, spelling, English, history, and geography were all reported as the best and the poorest subjects for more than 100 children. For example, arithmetic was reported the best for 932 children and the worst for 756 children. The above list is given in the order of frequency of being reported as both best and poorest subjects. The conclusion Myers draws is that "there was, then, no subject in which these children were rated better than in others without having an almost equal percentage of children rated poorly in the same subject."

The use of standard educational achievement tests has apparently been limited in sight-saving classes, although something more than a beginning has been made in their use with blind children. Hayes (1921) adapted a number of achievement tests for use with the blind. These include adaptations of Courtis Practice Tests in Arithmetic, Starch Test of Grammatical Usage, Triabue Sentence Completion Tests, Harlan's American History Information, Starch Dictionary Spelling Test, Ayres Spelling Scale, Courtis Map Test, and Hahn-Lackey Geography Test. Since this time a number of other educational tests have been made available for use with blind children, these have been described by Maxfield (1927, 1928) and Thomas (1930). In general, the performance of blind children on these tests indicates a degree of achievement comparable to that of sighted children. F. K. Merry (1930) found that the errors in arithmetic made by visually handicapped children corresponded closely to those made by seeing children; in terms of total score on the test, there was also a favorable comparison between the two groups. The same author in 1931 showed that in language usage blind children are retarded when compared with seeing children on the basis of chronological age.

Caldwell (1932) compared a small group of blind and seeing junior

high school pupils in the reading examination of the Stanford Achievement Tests. He found that blind children require from three to three and a half times as long as seeing children, but that, when the effect of their slower reading method is eliminated by removing time limits, the blind children have favorable achievement.

In the case of blind children, academic retardation because of being over-age is even more serious than with children who see partially. Some teachers of the blind feel that they are helping the individual by keeping him in school to a relatively advanced age—for example, graduating from high school at 25—because he is in a restricted environment. Inasmuch as it is inevitable that the blind must sometime adjust to individuals with normal vision, this would appear to be a shortsighted policy. In part, the educational retardation of blind children must be attributed to the slowness of available teaching methods. F. K. Merry (1930a, 1932) has indicated that certain modifications in the use of Braille in the lower grades might overcome some of this slowness.

Pechstein (1924) found better academic records in children with accidental blindness than in the congenitally blind. On the other hand, Hayes (1923) found no consistent trend in educational achievement when the average performances were plotted according to the age at which vision was lost.

From the clinical point of view, we may interpret the evidence to mean that visually handicapped or blind children are capable of educational achievement comparing favorably with that of seeing children provided suitable teaching methods are employed. Therefore educational guidance should follow that for seeing children with

Vocational Guidance—Because of the obvious occupational limitations imposed by reduction of visual acuity, problems of vocational guidance are of peculiar importance for the visually handicapped. In spite of this evident importance, many educators of the blind continue to hold the view that their education should be cultural, they often refuse to consider vocational training. R. V. Merry (1933) points out that vocational opportunities for the blind are limited, in part at least, by the fact that many schools refuse to experiment with new occupational possibilities but “continue to cling tenaciously to traditional occupations such as chair-caning and basket-making, which have long outworn their economic usefulness.” The limitations set by

poor vision are often not so obvious to the individual with partial vision; consequently the vocational counselor of children in sight-saving classes must call attention to the eye condition and direct the children toward occupations where vision may be conserved

In spite of their limitations, we find some blind persons in each of the major occupational classes used by the U. S. Census Bureau. A comparison of the percentage distribution of blind persons and the general population on this basis is shown in Table LXXVIII, com-

TABLE LXXVIII — APPORTIONMENT OF BLIND AND OF THE GENERAL POPULATION IN THE MAJOR OCCUPATIONAL CLASSES, 1920

| | Blind | General Population |
|---|-------|--------------------|
| Agriculture | 13.2 | 26.3 |
| Extraction of minerals | 0.2 | 2.6 |
| Manufacturing and mechanical industries | 43.1 | 30.8 |
| Transportation | 1.5 | 7.4 |
| Trade | 17.6 | 10.2 |
| Public service | 0.5 | 1.9 |
| Professional service | 14.0 | 5.2 |
| Domestic and personal service | 5.5 | 8.2 |
| Clerical occupations | 3.9 | 7.5 |
| Unclassified | 0.6 | |

piled from the U. S. Census report (1928a) from data for the year 1920. According to the same census, there were a number of occupations listed for the blind which were not specifically isolated in the general tables. For men, these include the following, with the percentage of the blind reported engaged in them:

| | |
|----------------|------|
| Broom makers | 14.0 |
| Piano tuners | 7.6 |
| Chair caners | 6.4 |
| Basket workers | 1.7 |

and for women:

| | |
|----------------------|-----|
| Chair caners | 7.5 |
| Basket workers | 4.6 |
| Weavers | 3.4 |
| Carpet and rugmakers | 2.8 |

This list of specific occupations (percentages are given in parentheses) also includes, for men: farmers, (11.2), retail dealers (9.1), musicians and music teachers (6.6), clergymen (1.5), school teachers (1.2); and for women: seamstresses and fancy workers (20.4), musi-

cians and music teachers (9.4), school teachers (6.5), stenographers (3.3). This is by no means the complete list, but the occupations here cited show that many vocations are open to the blind who have adequate training.

Summary—There is nothing in the résumé of certain psychological problems of the visually handicapped, just presented, to warrant considering them as a group in any way abnormal. Therefore, psychological problems concerning these children should be met in the same manner as when they occur in seeing children. Of course, the fact of the visual handicap must be considered as the primary problem and all plans for management be evolved with this in mind.

AUDITORY DEFECTS

Next to vision, the most important sense is audition. In some respects it may be even more important. For example, much of our everyday activity is guided and controlled by sounds—human voices, bells, whistles, horns, and so on, especially the first. In situations where these are important, the deaf and, to some extent, the hard-of-hearing person will be at a disadvantage. In fact, the Committee on the Deaf and Hard-of-Hearing of the White House Conference (1931) says, "Deafness is a disability causing a greater educational handicap than blindness." However, there would seem to be grave doubts of the truth of this statement. Auditory defects in children may influence their behavior in a number of ways, and in a specific problem case such a defect may be of the greatest etiological moment.

The Ear—The organ of hearing is the ear, which may be divided into three parts: the outer, middle, and inner ear. The outer ear includes the pinna or auricle, which is externally visible and serves somewhat to concentrate and direct air waves. From the pinna a canal, the auditory meatus, penetrates the temporal bone and is covered at its internal terminus by the tympanic membrane or eardrum. This membrane is one boundary of the middle ear, which is connected with the oral cavity by the Eustachian tube. Thus, pressure on the two sides of the eardrum may be equalized. In the middle ear is a chain of three bones—the hammer, anvil and stirrup—which act as a lever system to transmit vibrations across the chamber to the oval window, the membranous boundary between the middle and the inner ear. The inner ear includes two structurally and functionally distinct systems: the semicircular canals, which serve the sense of equilibrium,

and the cochlea, which is the organ of hearing. The cochlea is a spiral tube imbedded in the bone, divided throughout its total length into two compartments by the basilar membrane and completely filled with fluid. This membrane, with associated sensitive cells of the organ of Corti, comprises the sensory organ proper. It is in a way analogous to the retina of the eye. As in the eye, all of the other structures of the ear serve to concentrate and transmit vibrations from the surrounding air so that they will set the basilar membrane in vibration. For the

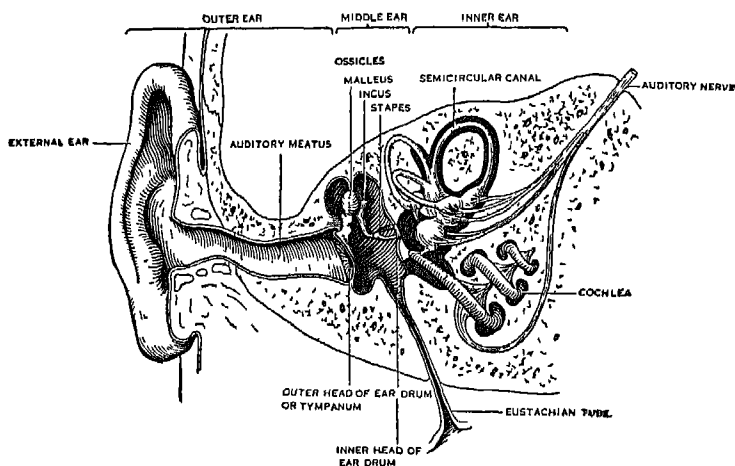


Figure 21.—Longitudinal Section of the Ear, Schematic

details of structure and the theories of function of the ear, the reader is referred to the standard textbooks of physiology or psychology.

Auditory Acuity—As with the eye in vision, the most important question is how sensitive is the organ of hearing. Auditory acuity is expressed as ten times the logarithm of the ratio between the intensity of a sound just barely heard by the ear being tested and the intensity of a sound barely heard by the normal ear. The acuity is expressed as:

$$S. U. \text{ equals } 10 \log \frac{I}{I_0}$$

where S. U. means sensation units, the term ordinarily used for auditory acuity, although it is the equivalent of the decibel unit used in sound engineering, I represents the intensity of the test sound necessary for it to be audible to the subject; I_0 is the threshold intensity of

the sound for subjects with normal hearing. Thus, if a certain sound, say the figure 3 spoken by a man, must be 100 times as loud as for the normal ear in order to be just audible to the subject, the hearing loss in S U is:

$$S U = 10 \log \frac{100}{1}$$

$$S. U = 10 \log 100$$

$$S U = 10 \times 2$$

$$S U = 20$$

That is, this subject would have a hearing loss equal to 20 units, which amounts to about 16.6 per cent loss. The methods of determining auditory acuity we shall consider below. No specific degree of loss that represents a serious defect has been determined or conventionally adopted. In most studies a loss of nine or more units as measured by an audiometer has been used for selecting children for further study. But this value is arbitrary and probably does not represent a very serious loss, in terms of understanding general conversation. However, it must be remembered that auditory acuity is greatly affected by noises in the environment. Therefore, a child whose hearing, measured under standard conditions, shows a loss of nine units, might well be at a disadvantage in certain more than usually noisy situations.

Hearing loss will result from any condition which interferes with the transmission of vibrations, with the functions of the various parts of the ear, or with the auditory nerve. There appear to be no data on the reasons for partial hearing loss, so we must turn to the data on deaf children. Deafness represents a serious hearing loss, but total deafness is extremely rare. As deafness is only an extreme degree of hearing loss, data on its cause may be significant to some extent in partial hearing. Richardson and Shambaugh (1928) report a study, made under the direct supervision of the latter, of 3120 children attending ten state schools for the deaf. The data from this study on the causes of deafness are presented in Table LXXIX. Of the cases reported as having acquired deafness, 256, or 21.48 per cent, had a history of otitis media.

The figures found in this study do not agree with the opinion held by some authorities, that the percentage for acquired deafness is higher than that for congenital deafness. It must also be noted that congenital

TABLE LXXIX—DISTRIBUTION OF CAUSES OF DEAFNESS

| Cause | Number | Per Cent |
|-----------------------------------|--------|----------------------------|
| Congenital | 1928 | 61.47 |
| Acquired | 1192 | 38.53 |
| Specific Causes of Acquired Cases | Number | Per Cent of Acquired Cases |
| Meningitis | 209 | 6.69 |
| Scarlet fever | 100 | 3.20 |
| Measles | 97 | 3.11 |
| Influenza | 91 | 2.91 |
| Pneumonia | 54 | 1.73 |
| Whooping cough | 42 | 1.34 |
| Fever | 38 | 1.21 |
| Poliomyelitis | 37 | 1.18 |
| Suppurative otitis media | 34 | 1.09 |
| Mastoiditis and operation | 32 | 1.02 |
| Mixed infection | 32 | 1.02 |
| Unknown | 283 | 9.07 |

NOTE: Causes reported in less than 1 per cent of the cases, with the number of occurrences, are skull fracture (24), probable syphilis (24), typhoid fever (22), diphtheria (19), brain fever (13), mumps (12), probable otosclerosis (6), chicken pox (3), fright (3), spasms (2), sleeping sickness, rickets and tuberculosis (1 each).

does not here mean hereditary. Of the 1928 children reported as congenitally deaf, there were only 349, or 18.1 per cent, with a history of deafness in the family, and some of these were without doubt cases of acquired deafness, e.g., from old age, which would have no influence on heredity. Other causes of congenital deafness are (Holt, 1910) • otitis, periostitis of the temporal bone encroaching on the cavity of the middle ear, ankylosis of the ossicles, absence of the internal ear or any of its parts, degeneration of the labyrinth, atrophy of the auditory nerve, and brain lesions.

In addition to these causes, attention should be called to conditions which may result in hearing loss. Foreign bodies in the ear, impacted cerumen or wax, or unhygienic conditions that result in plugging the auditory meatus will reduce auditory acuity. Impairment from these causes is, of course, temporary and can be easily corrected by removal of the substance.

Statistics.—The number of children with impaired hearing has been reported in several studies. The earliest of these appears to have been made in 1902 by the U. S. Bureau of Education (1902), and includes seven cities, of 57,072 children examined, 3670 were reported to have defective hearing. However, there is no description of the methods of examination or the criteria used. Fowler and Fletcher's (1926) sur-

vey is the earliest based on examination with an audiometer Of 4112 children examined in schools in several communities, 14.4 per cent were found to have a hearing loss of nine units or more On this basis, these authors estimated that there were 3,000,000 children in the United States with hearing defects Fowler (1928) in a subsequent study found no reason to change this estimate In Table LXXX

TABLE LXXX—SUMMARY OF SURVEYS OF HEARING WITH THE 4-A AUDIOMETER

| Author | Year | Place | Group | Number Examined | Per Cent |
|---------------------|------|---------------|--------------|-----------------|----------|
| Fowler and Fletcher | 1926 | New York | | 4,112 | 14.40 |
| Warwick | 1928 | Ft. Worth | Whites | 16,895 | 21.16 |
| | | | Negroes | 1,969 | 12.05 |
| Laurer | 1928 | Syracuse | | 4,419 | 11.30 |
| Humphrey | 1928 | St. Louis | Whites | 13,594 | 5.20 |
| | | | Negroes | 2,006 | 3.00 |
| Van Devere | 1928 | San Francisco | | 30,742 | 5.00 |
| Newhart | 1929 | Minneapolis | | 17,605 | 5.41 |
| Sterling and Bell | 1930 | Washington | (Better Ear) | 1,860 | 1.60 |
| Madden | 1931 | New York | | 1,075 | 12.60 |

are given the data for a number of subsequent surveys in all of which the 4-A audiometer was used The median percentage of these studies is approximately 6.5, the percentage based on the total number of cases involved is 8.9

The number of deaf children enumerated by the U. S. Bureau of Census (1931) was as follows:

| | |
|---------------|------|
| Under 5 years | 919 |
| 5-9 " | 3950 |
| 10-14 " | 6262 |
| 15-19 " | 5669 |

This is a total of 16,800 deaf persons under nineteen years of age out of a total deaf enumeration of 57,084 These figures indicate that although the number of deaf is comparatively small, deafness is still a serious problem of childhood This is even more clearly shown in Table LXXXI, which presents data on the age at which hearing was lost In the first column are given the percentages reported by Richardson and Shambaugh (1928), and in the second column the figures from the U. S. Bureau of Census (1928).

TESTS FOR AUDITORY ACUITY

Our interest in the measurement of auditory acuity will be limited to certain tests which are in common use and may be given in the

TABLE LXXXI.—AGE AT WHICH HEARING WAS LOST

| | Richardson and Shambaugh | | Census 1920 | |
|------------------|--------------------------|----------|--------------------|----------|
| | No | Per Cent | No | Per Cent |
| Congenital . . . | 1,928 | 61.5 | 13,513 | 38.6 |
| Before 3 . . . | 706 | 22.6 | 11,919 | 34.0 |
| 3-5 . . . | 193 | 6.1 | 5,862 | 16.7 |
| 6-10 . . . | 144 | 4.6 | 2,193 ^a | 6.2 |
| Over 10 . . . | 14 | 0.4 | 250 ^b | .7 |
| Unknown . . . | 135 | 4.3 | 1,289 ^c | 3.6 |
| Total . . . | 3,120 | | 35,026 | |

^a Includes years 6 to 9 only^b Includes 10 years and over^c Includes 61.1 reported as 'childhood'

psychological clinic or in the classroom. Two tests that require no special apparatus have been in use a number of years, but, because of the difficulties of standardization, they are usable only for approximate determination. The Western Electric Company has developed a series of audiometers designed to give relatively precise measures of the degree of hearing loss.

The two cruder tests in common use are the watch-test and the whisper-test. In the watch-test a man's watch (some workers prefer the Ingersoll variety) is used for sound production. The subject is placed at one end of a room, the ear to be tested being toward the examiner. The watch is first held close enough to the ear so that the subject can become familiar with the sound of the ticking. It is then moved away from the ear about six inches at a time until it is no longer heard. From a distance well beyond this point it is moved toward the ear until the subject reports hearing it again. This is repeated several times, and an average is found for the distance at which the ticking is barely heard. In actual tests norms must be established on a number of children in the situation where the test is to be used. This must be done each time because of the masking effect of other noises from the street or building. Kerrison (1930) says that the functionally normal ear should hear a watch tick at from 35 to 50 inches. McLeod (1934) says that the tick of an Ingersoll watch can be heard by the normal ear at 48 inches, and this is taken as the standard distance. The hearing may be expressed as a fraction, the denominator of which is 48 and the numerator is the distance at which the watch is

just heard. Thus, if the threshold found for the right ear is at 22 inches, the hearing would be expressed by the fraction $22/48$

The whisper-test is also commonly used, but because of the difficulty of reproducing the same intensity from time to time it also lacks precision. Wallin (1927) says that the best results are secured when the whisper is made with residual air only. The child being given the test must not be allowed to see the examiner's lips. He is placed with the ear being examined toward the examiner, and the other ear is closed tightly with a plug of cotton or the tip of the little finger. The examiner clearly and distinctly whispers digits at random from a prepared list. It is usual to begin at about 20 feet from the ear and if the whisper is not heard to approach slowly until the child can repeat the digits correctly. Fletcher (1925) says that the normal ear can hear numbers presented in an average whisper at a distance of 40 feet if there are no other sounds. Newmayer says that the examiner should start 20 feet from the ear. Wallin (1927) quotes Butterworth's suggested standards for the whisper-test as follows: (a) very slight deafness: whisper heard beyond six feet but not at twenty feet; (b) slight deafness: whisper heard in a range between three and six feet; (c) hard of hearing: inability to hear whisper at three feet but can hear voice at six feet. Because of the variability in whispers and the lack of agreement as to the distance at which the normal ear can hear a whisper, this test is even less satisfactory than the watch-test.

The precision instrument in most common use today is the 4-A audiometer. The 1-A, 2-A, and 3-A audiometers are designed for individual testing and determining hearing acuity throughout a wide pitch range, the 2-A instrument in particular has a useful diagnostic value for the otologist. The 4-A audiometer is designed for examining groups of children in the classroom. It consists of a phonograph with a magnetic pick-up and 40 headphones which are activated by the phonograph records. Thus up to 40 individuals may be examined at one time. The test itself consists of four series of three-place numbers, two series being spoken by a man and two by a woman. The intensity in each series decreases by regular steps. The child is given a prepared blank on which to record the numbers he hears. The amount of hearing loss may be determined directly from the record sheet. The hearing loss on any of these audiometers is expressed in terms of sensation units, and the percentage of hearing loss may be obtained

by multiplying these units by certain factors given by Fletcher (1925). For speech as tested by the 4-A audiometer this factor is .83; for the 3-A audiometer it is 1.00; for the watch tick it is 1.5, and for pure tones as used in the 2-A audiometer the factor varies with the pitch. In the article just cited, Fletcher gives a complete discussion of the relation between various tests of auditory acuity. In Table LXXXII

TABLE LXXXII—EQUIVALENCE OF AUDIOMETER AND WHISPER TESTS

| Hearing Loss in S U | Distance at Which Average Whisper is Heard |
|------------------------|---|
| 0 | 39.5 feet |
| 5 | 22.2 " |
| 10 | 12.5 " |
| 15 | 7.0 " |
| 20 | 4.0 " |
| 25 | 2.2 " |
| 30 | 15.0 inches |
| 35 | 8.5 " |
| 40 | 4.7 " |
| 45 | 2.7 " |
| 50 | 1.5 " |
| 55 | .8 " |

are given the distances at which an average whisper can be heard, when presented under noiseless conditions, by ears with the specified hearing loss.

In addition to, and even before, the determination of auditory acuity the psychoclinician should look for other signs of possible hearing difficulties. Among such signs that might be noticed in the clinic or be reported by teachers are: discharging ears, earache, noises in the head, frequent requests to have statements repeated, turning one ear in the direction of the speaker, unusual mistakes in diction, peculiar voice qualities, bewildered or baffled facial expression, difficulty in gaining and holding attention on verbal directions, and, in some children, personality defects in the nature of shyness, aloofness, suspicion, and the like.

PSYCHOLOGICAL CHARACTERISTICS

Intelligence.—We might well expect the test performance of deaf and hard-of-hearing children to be inferior to that of children with normal auditory ability. As we shall show, such a deficiency has usually been found, although Madden (1931) points out that the perform-

ance of hard-of-hearing children on the Stanford-Binet indicates they are more like normal-hearing children than they are like the deaf

Madden (1931) appears to have made the most extensive study of the intelligence and achievement of hard-of-hearing children. He selected 46 children with the poorest hearing from a New York City school, and matched them by sex, age, and race with 46 normal-hearing children. On the Stanford-Binet the normal children had a mean IQ of 83.46, while the mean for the hard-of-hearing children was 77.04. The difference of 6.42 IQ points is 4.93 times its probable error and thus may be taken as significant. A similar difference was found when scores on the Pintner Rapid Survey test were compared. The Otis test was given in a small suburban school where, out of 183 cases, 13 were found with 6 S U or more loss in hearing. The mean IQ for the normal-hearing children was 101.55, and for the hard-of-hearing 93.38. The difference of 8.17 is only 2.34 times its probable error because of the very small number of hard-of-hearing children. However, it tends to corroborate the findings on the larger group. The correlation between auditory loss and a combination intelligence score based upon the Otis Intermediate Examination and Pintner Rapid Survey test was only $-.128 \pm .049$. In the larger city school the correlation was $-.123$ on 537 cases. In both cases the influence of chronological age was partialled out.

Sterling and Bell (1930) had IQ's of 585 children of the group studied. It will be seen in Table LXXXIII that a relatively larger proportion of serious hearing loss occurs in the lower intelligence groups. However, as the authors point out, the number of children

TABLE LXXXIII —RELATION BETWEEN INTELLIGENCE AND HEARING LOSS

| Hearing | Percentage of Children | | | Number of Children | | |
|-------------------------|-------------------------------------|-------------------------------|-------------------------------------|-------------------------------------|-------------------------------|-------------------------------------|
| | Intelligence Quotient above Average | Intelligence Quotient Average | Intelligence Quotient below Average | Intelligence Quotient above Average | Intelligence Quotient Average | Intelligence Quotient below Average |
| All children | 100.0 | 100.0 | 100.0 | 167 | 311 | 107 |
| Normal or above | 74.2 | 71.7 | 60.8 | 124 | 223 | 65 |
| Slight loss | 25.2 | 26.7 | 35.5 | 42 | 83 | 38 |
| Loss of 9 or more units | 0.6 | 1.6 | 3.7 | 1 | 5 | 4 |

with serious hearing loss is very small and therefore too great generalization should not be made.

Madden analyzed the responses given by his children on the Stanford-Binet. He found, surprisingly enough, that the test item showing the greatest difference in favor of the normal group was reproduction of designs in Year X. On the other hand, the tests in which the hard-of-hearing showed superiority were giving rhymes in Year IX, and vocabulary in Year X. These findings might be taken to indicate that the inferior Binet performance of the hard-of-hearing is not due to lack of verbal ability.

It would seem unwise to accept the findings of these two studies as final and from them conclude that hard-of-hearing children are, as a group, inferior. It may be that more intelligent parents secure medical attention earlier in the child's life and, therefore, hearing loss has been in part corrected in their children by the time they are in school. Certainly, in dealing with the hard-of-hearing child, one should not be influenced by an idea of his intellectual inferiority. For example, the occupational adjustments of the hard-of-hearing as a group will be affected more by the hearing loss than by lack of intelligence.

When we turn to deaf children we find a much more extensive bibliography of studies on their intelligence. These have been well summarized by Pintner (1931). This author, who himself has made extensive studies of deaf children, points out that the reported experiments show a definite lack of ability in deaf children to understand printed or written language, and also a general inferiority in test performance amounting to about two or three years. This deficiency is equally evident in both congenitally and adventitiously deaf children. In the review cited and in earlier papers, Pintner has demonstrated the inferiority in both language and non-language tests, and he is quite certain that the difference is definitely a real one.

In Table LXXXIV are presented data from a survey of the Indiana School for the Deaf made by Miss Ada Marker under the writer's direction. These data have not been published elsewhere. The Pintner Non-Language Test was given to 404 children in all of the grades through high school. Forty-five of these children, together with 42 kindergarten children, were also given a battery of seven performance tests. The distributions show that, in this school at least, the deaf could hardly be called inferior in mental ability. Even though this

TABLE LXXXIV — DISTRIBUTION OF INTELLIGENCE AT THE INDIANA SCHOOL FOR THE DEAF

| Class | Pintner Non-Language Test | | | | Battery of Individual Performance Tests | | | | | | | |
|------------------------|---------------------------|----------|-------|----------|---|----------|-------|----------|----------------|----------|-------|----------|
| | Grades 1 to 12 | | | | Kindergarten | | | | Grades 1 to 12 | | | |
| | Boys | | Girls | | Boys | | Girls | | Boys | | Girls | |
| | No | Per Cent | No | Per Cent | No | Per Cent | No | Per Cent | No | Per Cent | No | Per Cent |
| Very superior | 13 | 6.2 | 6 | 3.1 | 2 | 8.7 | 0 | | 1 | 3.4 | 0 | |
| Superior | 55 | 26.2 | 58 | 29.9 | 1 | 4.3 | 0 | | 3 | 10.3 | 1 | 6.2 |
| Slightly above average | 53 | 25.2 | 30 | 15.5 | 5 | 21.7 | 8 | 42.0 | 3 | 10.3 | 1 | 6.2 |
| Average | 55 | 26.2 | 58 | 29.9 | 9 | 39.1 | 5 | 26.3 | 7 | 24.2 | 4 | 25.0 |
| Slightly below average | 10 | 4.8 | 21 | 10.8 | 2 | 8.7 | 1 | 5.2 | 1 | 3.4 | 3 | 18.8 |
| Low normal | 21 | 10.0 | 20 | 10.3 | 3 | 13.0 | 3 | 15.8 | 13 | 44.8 | 7 | 43.8 |
| Border-line | 2 | 0.9 | 1 | 0.5 | 0 | | 2 | 10.5 | 0 | | 0 | |
| Feeble-minded | 1 | 0.5 | 0 | | 1 | 4.3 | 0 | | 1 | 3.4 | 0 | |
| Number of cases | 210 | | 194 | | 23 | | 19 | | 29 | | 16 | |

school rigorously excludes all determinable feeble-minded children, one could hardly think that this exclusion is the only reason for the nature of these distributions

In a monograph published after Pintner's (1931) review, MacKane (1933), compared matched groups of deaf and hearing children on the Arthur, Pintner-Paterson, and Drever-Collins Performance Scales. Pertinent data for the total group of 130 pairs are shown in Table LXXXV. While there are differences in the mean performances, none

TABLE LXXXV — COMPARATIVE SCORES OF DEAF AND HEARING CHILDREN ON THREE PERFORMANCE TESTS

| Test | Score | Hearing | | Deaf | | Diff | σ Diff | $\frac{\text{Diff}}{\sigma \text{ diff}}$ |
|----------------------|--------|---------|----------|--------|----------|-------|---------------|---|
| | | Mean | σ | Mean | σ | | | |
| Grace Arthur | M A | 126.6 | 22.46 | 119.6 | 26.99 | 7.0 | 2.39 | 2.92 |
| Pintner-Patterson | M A | 126.78 | 20.76 | 121.15 | 26.81 | 5.63 | 2.53 | 2.23 |
| Drever-Collins | M A | 146.88 | 26.39 | 140.02 | 29.88 | 6.85 | 2.87 | 2.38 |
| " | Scores | 89.11 | 17.74 | 83.84 | 22.85 | 5.27 | 2.14 | 2.47 |
| Pintner Non-Language | " | 320.64 | 75.19 | 244.47 | 105.59 | 76.17 | 10.69 | 7.13 |

of them are statistically significant. The author gives similar data separately for boys, girls, and ten-, eleven-, and twelve-year-olds. In all of these only the difference between the means of the girls on the Arthur Scale is more than three times its S.D. When comparisons are made on the basis of raw scores instead of mental age score the difference on the Drever-Collins Scale is not significant but that on the Pintner Non-Language Test is decidedly so, suggesting that these two tests are measuring entirely different abilities.

This finding corroborates the earlier reports of Drever (1929) and Drever and Collins (1928), who found no superiority shown by hearing children on their performance scale. Perhaps the lack of agreement between this study and the others summarized by Pintner is in part due to the fact that the Drever-Collins Scale was intentionally designed for use with deaf children. In 1931 Pintner said that the discrepant reports of the Scottish investigators could not then be explained. MacKane's study, made under Pintner's direction, would seem to reopen the question of the test ability of deaf children. However, the last word has not been said, and for the present the psychologist should deal with problems of hearing loss on that basis and not on the basis that children with defective hearing are necessarily inferior in mental ability.

Personality—The presence of any physical defect must inevitably have an influence on the way an individual learns to react to his social environment. This influence is peculiarly pernicious in the case of defective hearing. The blind and the crippled are easily noted in a group, with the result that the behavior of other people toward them takes account of the deficiency. This is not true of deafness. As Smaltz (1931) says, the deaf person may find himself in difficult situations because other people are unaware of his handicap. Rather than be placed in embarrassing situations, the deaf person may tend to withdraw from social contacts, and develop deep feelings of inferiority as a consequence of the withdrawal. Therefore, special effort should be made to help the deaf child learn to adjust to his hearing companions. Such attention must be wisely controlled, for such a child may suffer an equally serious personality distortion from over-solicitude. For example, Tad, whose history is told by Mary Sayles (1928), was, by virtue of his apparent deafness, the far from benevolent tyrant of his household.

Research on the personality of the deaf and hard-of-hearing does not seem to be plentiful. Madden (1931) asked the teachers of hard-of-

hearing children in the groups he studied to rate them on the following traits: attentiveness, obedience, leadership, shyness, and feeling of being slighted or persecuted. These ratings were made on a five-point scale. There were no differences between the normal and hard-of-hearing children in any of the traits except leadership and shyness. In both schools studied, especially in the suburban one, the children with normal hearing were rated higher in leadership. As leadership hardly accompanies shyness, we might well expect the hard-of-hearing children to be more shy than children with normal hearing. This was found to be true, and in quantitative rating the difference in the mean rating of the two groups was statistically significant.

From this very inadequate evidence, we might expect to find the most serious personality problem of children with auditory defects to be shyness and a tendency to withdraw from social contacts. Apparently the widely held notion that hard-of-hearing children are inattentive is not borne out by the findings of the one study available.

Educational Achievement—The educational achievement of deaf and hard-of-hearing children is closely bound up with the degree of intelligence. Sometimes this has been overtly recognized, and sometimes not. Humphrey (1928) reported that 60 per cent of 768 hard-of-hearing children had repeated at least one quarter, but he further says that this retardation was not wholly due to the hearing deficiency, although this was an important factor. Warwick (1928), Laurer (1928), and Steiling and Bell (1930) all report a high proportion of retardation among children with hearing loss. As we have shown in an earlier chapter, school retardation may be caused by any one of several factors. Since this is as true for the hard-of-hearing as for children with normal hearing, reports of proportion of retardation cannot be taken as adequate indication of academic achievement.

Taussig (1909) felt it necessary to do considerable explaining when he found little inferior achievement among his children with defects. The fact that he formulated a number of theories to explain away his data is an indication of the belief held almost as widely now as twenty-five years ago, that the hard-of-hearing child must be poor in educational achievement. When Madden (1931) matched his group of 46 hard-of-hearing with normal-hearing children on the basis of sex, age, race, and IQ., he found no differences in the achievement of the two groups as measured by the Stanford Achievement Test. The lack of an inferiority in the hard-of-hearing group was evident in the total score and in the sub-tests. In fact, the non-significant differences

found were in favor of the hard-of-hearing for word meaning, spelling and arithmetic computation

When the achievement of deaf children is considered, Madden's conclusion, that the hard-of-hearing should be compared with hearing children and not with the deaf, is emphasized. Reamer (1921) has made an extensive study of the mental and educational abilities of the deaf. She standardized a non-language mental test and an educational survey test on approximately 2500 deaf children. While the deaf were inferior to the hearing on both tests, the inferiority was much more pronounced in educational achievement. The following quotation from her conclusion summarizes the findings pertinent in the present connection:

"The average difference in mental ability between hearing and deaf children is about two years.

"The average difference in educational ability between deaf and hearing can be expressed by saying that the deaf child is retarded five years when compared with the hearing child

"The average grade retardation of the deaf, according to hearing standards, is about three and one-half grades

"The discrepancy between the two years' retardation mentally and the five years' retardation educationally is due to the language handicap, and this is a good measure of the power of this handicap in the education of the deaf."

Speech and Hearing—We have elsewhere discussed the relation of speech development to hearing. The deaf child will not learn to talk, as does the hearing child, by spontaneous vocalization ultimately modified to conform to the standard word sounds heard. He must be especially trained, and even then, if speech is established, his voice may have a toneless quality and often be little short of unintelligible. The lack of hearing, coupled with usual difficulties in learning speech, makes impossible adequate contact with the verbal world in which we live. Extreme deficiency in language abilities has been emphasized by almost all investigators as one of the important factors in the poor intelligence and educational test performance of the deaf. Pintner and Paterson (1916) showed that only 64 per cent of their deaf subjects scored above fourth-grade hearing children in the Trabue language scale. Quite evidently the difficulty in language arising from the inability to hear is the most serious handicap to educational or social adjustments

Chapter XV

NEUROLOGICAL AND PHYSICAL DISABILITIES

IN THE last chapter visual and auditory defects were discussed in detail because they appear to have a definite significance in relation to psychological problems. A number of other physical disabilities also play important parts in the etiology of psychological problems. Two groups of these may be conveniently distinguished. The first includes those conditions based upon neural pathology; in these, motor abnormalities are common symptoms, and ideational and emotional symptoms may also be evident. We shall discuss only encephalitis and epilepsy in detail and mention briefly a few other conditions. The second group may be given the ambiguous term, "lowered vitality." In this we shall include (mainly for convenience) several significant physical disabilities which are not primarily sensory or neurological.

There are two matters that are of concern in the psychological study of children with any kind of neurological defects or, for that matter, any physical defect. The first of these relates to the measurement of abilities. Most tests have been made for children with full use of all sensory and motor functions. As we have said in connection with the birth-injured feeble-minded, presentation and interpretation of tests and test results in the case of physically abnormal children must be modified and qualified in the light of their physical disability.

The second concern of general significance relates to the possible personality patterns developed by the physically abnormal child. With the limitations imposed by gross neurological or other physical abnormalities, the child may feel that he is cut off from other children and may develop attitudes of inferiority, resentment, loneliness, insecurity, and so on. Furthermore, his parents' reactions to his deformity may show over-solicitude, with the result that the previously mentioned attitudes are augmented and the child may become hopelessly dependent not only physically, but psychologically as well. The psychologist may, on occasion, be called upon to help the parents see that a more normal attitude will be beneficial for the child,

or he may need to help the child himself adjust to his physical limitations

ENCEPHALITIS

Encephalitis is a generic term, meaning literally an inflammation of the encephalon or brain, and is applied to a number of conditions that have not been clearly separated. One of these is an epidemic variety known as encephalitis lethargica. It is this form that is of particular interest to us because of the frequent behavior sequelae.

There appears to be no doubt that the disease is caused by a pathogenic organism the nature of which is as yet unknown. No part of the central nervous system is spared, but the basal ganglia, mid-brain, and medulla are perhaps most frequently affected. The pathology, gross and cellular, may be widespread, or concentrated in a limited area. It is fairly characteristic, most cases showing at post-mortem punctate hemorrhages, blood-vessel congestion, leucocytic infiltration and evidences of toxic nerve-cell degeneration. These findings are from severe cases; as yet, practically nothing is known of the pathology in patients who suffer behavioral changes.

Symptomatology of the acute attack varies. The onset may simulate a common head cold; there may be fever, abnormal involuntary movements, diplopia (double vision), disturbances of both deep and superficial reflexes, neck rigidity, insomnia, facial paralysis, pupillary anomalies, and many other symptoms in combination, or isolated. One rather characteristic symptom is drowsiness and coma, during which the patient may be aroused momentarily. In some patients insomnia, reversed sleep curve, overactivity, excitement and delirium may occur instead of coma. The problems of diagnosis and treatment of the acute stage are entirely medical and we cannot discuss them here. Wechsler (1935) has an excellent short account, and the Matheson Commission (1929, 1932) has published extensive résumés and bibliographies, to which we must refer the reader who is interested in the medical aspects of the condition.

The acute attack may be followed immediately by neurological or behavioral sequelae, or it may subside and sequels appear weeks, months, or even years later. Burt (1922) says, "The eventual condition seems to depend very largely upon two factors, the severity of the initial illness and the age of the child when first attacked." Paterson and Spence (1921) reported on 25 children who had acute attacks

between the ages of three months and eleven years. Of these, 25 per cent had complete recoveries, the balance showed permanent disturbances such as idiocy and minor degrees of mental derangement, including 30 per cent who had a residual paralysis. Neurological sequelae, especially Parkinsonianism, are more frequent in adults than in children. Dawson (1928) says that in from 50 to 85 per cent of patients with Parkinsonianism there are eventually mental changes in the direction of emotional dullness and intellectual impairment. "In children under ten, the Parkinsonian syndrome rarely develops, but there is a marked tendency to mental arrest or impairment, anti-social behavior, and weakening of moral sense." In a summary of the literature Hetherington (1933) says, "Children under three who have suffered from the disease have not been known to attain normal mental development afterward. Those having the attack between the ages of three and ten or eleven usually suffer neurological after-effects."

There are exceptions to these generalizations, as shown by occasional cases. Chiampi and Crespo (1931) reported a girl with both respiratory and conduct disturbances. Catalano (1927) described a child who exhibited character changes following an acute attack and in whom a Parkinsonian syndrome appeared after three years. At post-mortem deep lesions were found in the cerebral cortex, basal ganglia and spinal cord, with evidence that the cerebral lesion had been the first to appear.

Parkinsonianism, or the Parkinsonian syndrome, is characterized by the gradual development of a stiff, expressionless, "mask-like" face, muscular rigidity, excess saliva production resulting in drooling, and monotonous voice. Rhythmic jerkings occur in single members or, more widespread, in arms, legs, and head, respiratory spasms are also part of the picture. The gait is affected to some degree—mildly when the trunk is bent and the patient walks slowly without swinging the arms, or severely when he sways while standing and then moves forward at a rapid irregular run which frequently ends in a fall if he is not stopped. As has been mentioned earlier, this syndrome develops less frequently in children than in adults.

The mental or behavioral symptoms found more often as sequels in children take a variety of forms. Ebaugh (1923) lists the following as symptoms found in seventeen post-encephalitic children without Parkinsonianism: total change in character and disposition, insomnia

with nocturnal agitation, affective disorder of a depressive type, hysterical reactions, tics, fears, etc., mental deficiency, headaches, dizziness, diplopia, drowsiness, asthenia (lack of strength). Complete changes in behavior patterns are commonly reported. Obedient, orderly, truthful children become disobedient, disorderly and untruthful; they may become so obstreperous that they commit serious anti-social acts. In the cases to be presented shortly these behavioral changes are well illustrated. Stryker (1925) has prepared the following list of characteristic encephalitic sequelae in children:

1. Sleep curve reversed, i.e., sleeps in daytime, awake at night
2. Malicious mischief—"moral imbecility"
3. Assaultive—attacks without provocation
4. Emotional instability—extremely changeable
5. Lack of inhibition—applicable to all acts
6. Panting respiration—apparent even when not fatigued
7. Impulsive action—acts without proper stimuli
8. Not amenable to discipline
9. Indifferent—ordinary appeals of no avail
10. Irritable—adjustment to environment impossible
11. Obstinate—persistent
12. Profane
13. Lying—not unlike the "psychopathic liar"
14. Talkative—stream of talk
15. Well oriented—to limit of mental level
16. Petty thieving—fails to recognize rights of others
17. Memory and attention often impaired
18. Personally untidy—no attention to self
19. Slowing up of speech
20. Impudent—no respect for anyone
21. Tics—very often spits continually
22. Depressed—general depressed attitude in higher grades
23. Localized pain—often complains of pain the basis of which is not found
24. Visual impairment—more noticeable at high levels
25. Poor motor control
26. Dominating—when not depressed, thrusts self forward
27. Restlessness—general hyperactivity

The following cases show the behavior picture found frequently

following encephalitis. The last two cases, in particular, suggest suitable methods of dealing with the behavioral problem.

Case Number 57 (Stryker, 1925). Joseph was born November 2, 1916, and at the time of admission to the Vineland Training School was nearly nine years old. In 1921, at the age of 5 years, he had, according to all records and diagnoses, an attack of encephalitis lethargica. After recovery his parents were unable to control him as formerly. He was finally committed to the State Home for Boys on a charge of incorrigibility. At this institution he was found to be mentally subnormal and not a disciplinary case in the sense of willful misconduct. The physician and the psychiatrist of the institution concurred in a diagnosis of encephalitis lethargica and he was transferred to the Vineland Training School in October, 1925.

His first day in the cottage he started to fight with the other boys, striking and kicking them so that transfer to a cottage of more active boys capable of self-defense finally was considered necessary. He was quarrelsome, meddlesome, destructive, and utterly unable to get along with the other children. He snatched their toys, breaking and soiling them. His language was profane and his table manners so poor that he could not be allowed to eat with the other boys.

After transfer to a cottage of more active boys his behavior continued to be aggressive, assaultive and destructive. His untidiness presented a continuous problem. It required considerable attention to keep his clothes on properly and to keep him clean. He was subject to enuresis night and day. There appeared to be an over-secretion of saliva causing him to drool and spit excessively. Restlessness during the night to the extent of wandering around the dormitory, and periods of drowsiness during the day indicated his tendency to reverse his sleep curve.

Physically Joseph is undersized. His measurements indicate his growth to be equal to that of a normal boy three years his junior. His psychophysical development is likewise retarded. A medical examination reveals chronic torticollis with contracture to the left. This condition, apparently, is a physical residual of his disease. The degree of curvature varies; at times he stands nearly straight when he wants to but does not like to because it hurts his back. With the incentive of a reward, however, he will stand almost erect. In connection with this, flashes of a greater degree of brightness were noted. One of his teachers would hold up a stick and, when he touched it, would reward him. One day she raised the stick quite a bit and Joe said,

"You put that stick up. How can I touch it?" seeing through her game

Because of his low mental level and non-literacy the number of tests he could be given was limited. A good degree of correlation among those given may be noted, however. His mental level appears to approximate 5 years which was his age at the onset of the disease.

His Binet test age was 4 years 10 months, I.Q. 54 on first examination. On a retest two months later he obtained a score of 5 years 4 months, I.Q. 58 His basal year was III in both instances, but above Year IV his success and failures varied. His zero year on the first examination was VII, whereas he passed the VII-year test of repeating 5 digits on second examination, thus raising his zero year to VIII. This variability in results one suspects is due to his instability. He exhibited good rote memory, poor reasoning ability and motor control, and stereotype responses. On the Porteus Maze Joseph passed only the III-year test, making his score 3 years. This success was due to imitation. He did not know how to hold a pencil and his motor control in this test, also, was poor. His score on the Detroit First Grade Intelligence Test was 10, which gave him a rating of "E" and placed him in the slow-moving group for entrance to first grade. On the Goddard form board, Joseph's performance was equal to that of a normal six-year-old boy. His motor control on this test was fairly good. Apparently there was better coordination for larger movements such as are required here than for the smaller movements such as are required in holding a pencil, copying a square, etc. The school examination shows that Joseph's school achievement does not equal even grade I, although it is reported that he attended public school, but with "poor" success. He can count only to five. During the examination, it was noticed that he was restless and over-active with a tendency to become easily fatigued. His attention was very distractible and it was difficult to hold it to the tests. He was a hard child to manage in the clinic room as he was restless and obtrusive, wanting to handle everything he saw. He seemed to realize that his pranks were annoying but just grinned and took added delight in them.

A complete study of Joseph's case shows that the behavior symptoms are characteristic residuals of encephalitis lethargica. He presents such characteristic symptoms as irritability, destructiveness, assaultiveness, over-activity, profanity, liability to mental fatigue, personal untidiness, a tic in the form of excessive spitting, poor motor control, defective attention, and a mental level equal to that of his age at

the onset of the disease, accompanied by a physical residual in the form of a curvature.

Case Number 58 (Willson, 1925). Angelo was committed to the State Home for Boys eight months ago following his third arrest for stealing. He is thirteen years old and was born in the United States of respectable Italian parents. He is the seventh in a family of eleven children. His parents and siblings are law-abiding and his home is comfortable. He was an ordinarily amenable youngster, showing no peculiarities of conduct as far as has been noted, up to the age of eight years when he suffered from sleeping sickness. This diagnosis was made at a city hospital where he was a patient. Immediately following this illness he was extremely nervous and awkward and it was thought that he had chorea. A few months later he was operated on for appendicitis.

During this long illness he was naturally much petted and humored, and when he began to show extreme irritability, obtrusiveness and restlessness his parents and others said he had been "spoiled." But discipline which had sufficed for his brothers and sisters failed to influence him. As soon as he was able to get about he began stealing "anything he could lay his hands on." He would run out of a moving picture show after a very few minutes of a vain attempt to sit still. Periods in a detention home and admonitions of parents, physicians and courts alike wrought no change. In school he was a failure, of course, being still in the second grade at twelve years of age.

On admission to the State Home for Boys at the age of 12.5 years, the psychologist found his test scores to indicate a border-line level but deferred diagnosis on account of the marked personality disturbance present. His attention was very mobile and it was considered probable that increased stability might enable him to attain higher scores. He was rated by the examiner as irritable, talkative and obtrusive. It was noted that along with his general restlessness there were frequent twitchings of facial muscles and a short spasmodic intake of breath about once a minute.

The medical examination at commitment showed no positive findings other than forward curvature of the six upper vertebrae, making the boy appear to have almost no neck at all—a peculiar dwarfed appearance. The boys call him "guinea pig." This curvature is common in cases of this sort, though not always present. A thorough psychiatric and neurological examination led to a diagnosis of post-encephalitic instability.

The classification committee at the institution, after discussion, recommended that he be assigned to school one half day and to assist his cottage matron in housekeeping the other half day so that supervision would be continuous. It was further ordered that, upon serious misconduct, the boy should be sent to the hospital for quiet restraint as a punishment. The psychologist undertook to instruct the cottage officer in the nature and proper treatment of this case.

Nevertheless, Angelo's eight-month stay has been a stormy period. For a time he appeared to be constantly inciting discord. He played tricks on his associates, fought, stole, lied, etc. Every officer who dealt with him agreed in declaring him to be a thorn in the flesh. Yet, withal, he is a likable chap, for he is always buoyant, never depressed, and his confidence in himself is amazing.

Of late there appears to be a slight improvement in his conduct. He works a little more willingly and for a somewhat longer period without a diversion. In the third grade at school he is beginning to make some progress. But only today, in talking with the writer, he told of having tricked a boy into a fall and then blamed the boy for resenting it. "Sure we scrapped. It was Cody's fault. I ain't got that kind of a temper."

Case Number 59 (Cole, 1924). M. S., a girl of German parentage, aged fourteen years, referred May, 1922, by her school teacher. The complaint in this case was that the patient was irritable, quarrelsome, restless, violated all rules of the classroom, and had been expelled from school. In March, 1920, the patient had influenza and epidemic encephalitis with typical symptoms. Her present behavior difficulties followed the illness.

The physical findings were chiefly coarse tremor of the tongue, asymmetry of the face, slurring speech, divergent strabismus, and sluggish pupillary reactions. The patient was well-developed and well-nourished. Psychiatric examination revealed the fact that she felt abused by her teacher, resented being teased by her schoolmates, and thought that they were all against her. She was hyperactive, emotionally shallow, inquisitive and resentful. A psychological examination, May, 1922, showed a mental age of thirteen years and ten months, intelligence quotient 93. Reexamination, in March, 1923, showed no deterioration.

Investigation disclosed that, previous to the illness, the patient was obedient and tractable. She went to bed and got up at a regular hour, came on time to meals, and was never late to school. She was clean and neat in appearance. Her chores were done cheerfully. She had

many friends and rarely quarreled with them. In school she was diligent, although rather slow. Before her illness, she was in the eighth grade, doing good work, and expected to graduate at the end of the semester.

After the encephalitic attack, there was a complete change in her behavior. She became obstinate and impudent. She objected to complying with almost every request, and whined and nagged constantly in a persistent effort to have her own way. When she did not succeed, she would resort to certain annoying practices, such as snapping her fingers or scraping her feet on the floor for long periods. Usually she refused to help her mother, complaining of lack of energy or, when compelled to work, of aches, pains and fatigue. Such work as she did was done well, but she accomplished only about a third as much in a given time as formerly. Her habits were so irregular that her mother's plans were always being upset. She got up at any hour in the morning that suited her; demanded food continuously throughout the day and evening; took naps irregularly during the day, and refused to go to bed until late at night. Although she was nightly enuretic before her illness, she did not once have enuresis afterwards. Several times every night she would wake up, but would be powerless to get up or call out, and would make inarticulate sounds to call her mother to take her to the toilet.

In school she was extremely restless and desired constant attention from the teacher. She talked aloud, quarreled with the other children, argued with the teacher, and wandered about the room at will, while the school was in session. Because of poor attention, she was able to accomplish but half as much as before her illness, but even so her marks were satisfactory. Her behavior was so disturbing to the teacher and pupils that she was excluded from school, although she had but a few months' work to do in order to graduate.

She became an object of teasing in her neighborhood. Children called her "squeegee" and "goggle-eye," which enraged her. She would chase them and slap them. She was tolerated by several girls her own age who were out every night with boys, and through this association she, too, became "boy crazy" and nagged and flew into a rage every night when not allowed to go with these girls.

In this case, the mother and stepfather had been told that the behavior resulted from the sickness. But this fact had not been made sufficiently clear. Their supervision was wavering. They pleaded with her and nagged at her constantly, but were, withal, very patient and indulgent. In their ignorance, they were unable to control her by any means other than bribery, and with that method had only occa-

sional success. After supervision was undertaken by the institute, the mother controlled the child to some extent by threatening to notify the worker to come and take her away in the "wagon." This method was not at first approved by the worker, but the mother's plea to be allowed to continue it, as it "worked wonderful" and gave her the first rest she had had in three years, could not be refused.

The family could not afford a private school for the patient, though it is doubtful if any school would have received her; and the strain of having to cope with her all day, with never any relief, caused the mother's health to fail. The stepfather on two occasions made definite plans to leave home, since his home life was completely spoiled by the child's behavior. When these crises were brought about, she became alarmed and penitent. A brother, several years older than she, was annoyed by her whining and occasional tampering with his things, but as their contacts were rare, no serious trouble between them occurred.

Treatment was undertaken by the social-work department of the institute nine months after the patient's examination. Information given the mother, as to the nature of the disease, resulted in less emotional reaction on her part to the patient's behavior. The mere emphasis on the fact that the child was suffering from "an organic brain disease" had real psychologic value. The mother remarked "Then we must treat her just as though she were insane." Under the worker's direction, the mother was able, with some degree of success, to establish for the patient a regular daily routine of living. Her sleep became less disturbed and there was a marked decrease in irritability.

It was considered advisable that she should finish the eighth grade in school before going to work, and she was placed in the public school for crippled children, where the principal and teachers were readily interested in undertaking a special program for her and another institute patient, a post-encephalitic boy, who, because of "wry-neck," was already a pupil in this school. The program included regular rest periods, with hydrotherapy, followed by a twenty-minute period in bed, food at regular intervals; no severe punishment, and the practice of kindly, persistent urging to induce obedience and application to her work.

Almost from the first, following this treatment, marked changes in the patient's behavior were noted by the mother. It was not necessary to take her to the toilet during the night, she ceased demanding food at all hours; she uncomplainingly helped her mother with the supper dishes; and accepted, with comparatively little resistance,

her parents' decree that she should not be on the streets after dark or go to public dances.

For a period of six weeks, a fair adjustment was effected. Then the child again became irritable and complaining. She thought she was not being fairly treated, accused other children of telling tales about her, was impudent to her teacher, argued about everything, and often refused to do the tasks that were given her. Her school work, however, was satisfactory, and she was given a diploma at the end of the session. When the social worker tried to get her a job, she refused the ones offered and, on her own initiative, got work in a factory as mail clerk, at a wage of \$12 a week. She has held this job for two weeks, but is dissatisfied with the work and salary.

The friction at home continues. The patient insists upon wearing her best dress to work, in spite of her mother's remonstrance. She now wishes to get nose glasses and discard the shell-rimmed glasses which were obtained for her because she objected to her steel-rimmed ones. She has joined two settlement clubs and tries to run them to her own taste. With boys she is very aggressive and is generally unpopular. The stepfather is again threatening to leave home.

This case illustrates the possibility of further education and the possibility of adjustment, although for a short time only. Because of the periods of upset, the prognosis is guarded, but with the frequent adjustments of environment, there is a chance that she will make educational, social, and economic progress.

Case Number 60 (Cole, 1924) E. S., a girl, twelve years old, referred July, 1921, by a children's hospital. This child was referred because of "nervousness," insomnia, "terrible" temper, and attacks of breath-holding or, more frequently, of rapid, deep breathing during which she might moan, cry, strike out at people, claw, swear, run around the room, and tear up paper and clothing, in a short time appearing normal again.

The exact time of the onset of this condition could not be stated, because the child was in a convent when it began. During the school session of 1917-1918, it had been observed that she was beginning to be "nervous," jerky, and unable to sit still. There was no complaint of her work, however, until the following November, when she returned home on vacation with a record of only passing grades. Her jerkiness had increased and the Sister in charge of her had observed that she was easily irritated, restless, and inclined to be "touchy" and seemed lonesome and dejected when her mother did not come to see her. For a year or more she had had headaches of a migraine type.

once or twice a week. Her mother observed that she was flushed and put her to bed. A doctor made a diagnosis of influenza, and she was in bed with fever for nearly three weeks. Immediately after she got up, spells of deep, rapid breathing began, not as violent as they became later on, but of the same type. The personality changes were also noted at this time. Two years and a half later she was brought to the institute for examination.

The physical examination showed marked underweight, very brisk reflexes, unequal pupils, somewhat rapid pulse, dermatographia, and slight ataxia in finger-to-finger and finger-to-nose tests. Metabolism, spinal-fluid Wasseimann, and other tests were negative. Subsequent examinations in October and December, 1921, showed no changes except a greater inequality of pupils. Later, nystagmus was noted. A diagnosis of post-encephalitis was made eight months later. During the examination the patient had an attack, which consisted of panting, respiratory movements, with fullness of the neck, mouth wide open and pupils dilated. She constantly moved about, fingering various objects, tearing up paper, attempting to scratch the examiner, spitting, and calling him bad names. Her muscles were somewhat tense, but there was no tremor. She did not respond, even to her name when it was shouted at her. The attack lasted four minutes. Afterwards she appeared as before, smiling and cooperative, but with increased respiration.

During the psychiatric examination, the patient responded and reacted well, between periods of excitement. Intelligence tests were not satisfactory because cooperation was interfered with by the periods of upset. Her intelligence quotient July, 1921, was 83, in December, 1921, it was 93.

A description by the mother, grandmother, and several school teachers of the patient's personality before her illness shows that she was a very amiable, docile child, never impudent, very generous and helpful, and liked by everyone. She had never been punished, since it had never been thought necessary. She was bright and winsome and a constant delight to her mother and stepfather. Her school record showed excellence in conduct and in all her work. At nine years she was in the fifth grade. It was at this time that she began to be restless and irritable, prior to her illness in November, 1918. Defective vision was suspected as the cause, but glasses did not improve her condition. The personality changes noted after her illness were quite different from the slight changes noted during the year before her illness. During the deep-breathing attacks, which occurred from five to ten times a day, her behavior took violent and most unaccountable

forms. She would throw her food about the table or with a sweeping motion dash most of the dishes off on the floor. She tore the paper off the walls, smashed the glass over pictures, tore her clothing and the bed sheets, played with matches and the stove lighter, and defaced the entire apartment. It was impossible to watch her closely enough to prevent destruction. It would take her hours to dress herself, whereas, at three years, she could dress herself quickly and correctly. In the bathroom she would play with water, throwing it all over the walls. Once she voluntarily got the mop, partially wiped up the water, and then hit her mother with the mop.

Periods of this type of behavior were varied with attacks which the mother described as "falling spells," which occurred once or twice daily, in which the child would suddenly grasp a chair or her mother or anything at hand, as if she were going to fall, holding on to it very rigidly, staring and not responding to sounds. Always she seemed very tired in such an attack and afterwards often went to sleep. Her sleep at night was usually restless and interrupted by numerous attacks of the kind described, and by masturbation, a practice which had been frequent since an early age. There would be periods when she would get in and out of bed every few minutes. Her nightgowns and the sheets she tore in strips. Frequently there were bowel involuntaries, which interested her, even to the point of playing with the excreta. The headaches occurred only about once a month. During a period of about a month in the fall of 1921, she pulled out most of her hair and ate it.

For the most part she was kept away from other children, as she wanted to dominate them, and when she could not, she cried or stamped her feet in rage. They teased her and ridiculed her; consequently she was allowed to play occasionally for short periods with one little girl who lived in the apartment above. To older people she was impertinent and would impulsively strike at them, pinch them, or spit at them. Several attempts were made to have her attend school again, but it was clearly impossible for her to adjust to classroom conditions and so she was kept at home at the request of the school authorities. For periods of two and three weeks, at three different times, she was in hospitals, but no improvement was noted. Bromides and luminal treatment were also unsuccessful.

For a year and a half after her illness, she was with her grandmother, as the mother felt that the stepfather's playful teasing and overattentiveness were exciting and irritating to the child. As she grew steadily worse there, she was taken home again, and for two years the parents gave up most of their social pleasures and duties and

devoted themselves to her. No friends were allowed to come to see them, the patient was not allowed to play with other children, and as far as possible the house was kept quiet. The mother took the child out for walks and occasionally the social worker supplied recreation. The parents soon learned that punishment availed not at all. Sometimes the child was shown a strap to induce obedience, but mostly discipline was enforced by kindness, and only for the purpose of making her conform to regular hygienic routine.

The mother observed that fatigue and hunger increased the severity of the attacks mentioned. As a result of her constant activity and lack of sleep and variable interest in food, the child was extremely thin. It was not until the summer of 1922 that she could be induced to drink milk. When she found that the milk made her gain in weight, she became interested and took as much as two quarts daily. In every way she began to improve. About the same time her father discovered that if she were held tightly as soon as a deep-breathing spell began, and told firmly to control herself, the attack would be over in about half a minute. Her recovery from this time on was rapid. She returned to school in the fall, entered sixth grade, and was promoted to 6A in February, 1923. Two attacks of deep breathing occurred the first week. The teacher made no fuss over them, but told her to control them, and they have not been repeated throughout the past school year. She became again a pleasant, even-tempered, affectionate child, ceased to make "invalid" demands, and has shown no abnormal behavior up to the present time.

Menstruation began several months ago. She now weighs one hundred and twenty-two pounds at the age of fourteen and seems perfectly healthy and normal in all respects, except for a rare occurrence of the rapid breathing when she is especially tired or hungry. The attacks last only a minute or so and are not accompanied by any other unusual behavior.

The child is one of three, out of twenty-four post-encephalitic children seen at the institute, who have practically made complete recovery. It would seem that the recovery was due to the quiet, sheltered existence which the parents' intelligence, self-sacrifice, and devotion made possible for the child. Fortunately, there were no other children in the family to complicate the problem, and so the parents could carry out the psychiatrist's recommendations of complete rest and no excitement. The parents, however, have suffered from the nervous strain almost as keenly as other parents who have had the family as well as the individual problem to deal with, the strain resulting, in this case, in a rather serious conjugal difficulty.

Treatment—We are concerned only with the treatment of the behavior abnormalities, and it is therefore not necessary to consider the various medications that have been proposed or tried. Whether the behavior changes are due directly to the pathology (which seems doubtful), or whether they stem from the child's treatment during and following the acute illness is an unsettled question. In any case, all authorities are in essential agreement with Willson (1925), who says, "Post-encephalitic cases require rest and quiet, physical upbuilding and non-irritating restraint, rather than punitive discipline."

The limitations of dealing with these patients in their own homes are shown in Case Number 59, while the excellent possibilities in the unusual home are shown in Case Number 60. Probably the first of these two cases is more typical of conditions as one finds them. The patience, stimulation, effort, care, self-sacrifice that are necessary over a long period in order to deal adequately with the child's behavior are usually not available in the home. Daily demands of even simple social living—especially if there are other children—the lack of insight on the part of parents, and the necessity of careful, expert supervision make home care less desirable than some sort of institutional care.

Post-encephalitic patients are found in asylums for the insane and in institutions for the feeble-minded. While such institutions are probably not the best possible places for these patients, still they may afford a fairly suitable regime and retraining program for their rehabilitation. It seems reasonably certain that special residential schools, or special programs in other institutions, would be the best method of treating the post-encephalitic child. An experiment in this direction was carried on by Drs. Bond and Appel (1931) at the University of Pennsylvania Hospital School, and their excellent report on it is the best account of a successful program for the rehabilitation of post-encephalitic children that has yet appeared.

After attempts to treat individual children in the wards with adult patients were uniformly unsuccessful, it was decided to try treatment of a group of children who would be entirely separated from other patients. Forty-eight children were members of the class that was formed, and at the time the report was written twenty-six had been discharged after having been members from one month to three and a half years. The remaining children, including all of the girls, had been in the group from a few months to two years. All except two

of the children improved while at the hospital. After discharge to their homes, seven continued to improve, thirteen (of whom six were feeble-minded) showed little change, and six showed regression. Only children who were under twelve years of age and who did not have Parkinsonian symptoms were admitted. The success in this school is paralleled in the work at the Kings Park State Hospital as reported by Robeson (1925).

The treatment was wholly psychological and educational, based upon a point of view that was shared by doctors, nurses, and teachers—briefly, that the post-encephalitic child's behavior, which at home had been very disturbing and irritating, could be made more socially acceptable if the child were kept busy under constant supervision at socially desirable activities. School, occupational therapy, meals, play time, games and other fields of activity were planned with this aim in view. Instructions for those in charge of the children emphasized praise for things well done, disregard of minor faults, eccentricities, enuresis, etc.; a strict prohibition of physical punishment; and the use of withdrawal of privileges as punishment. The methods used in treating the child were based on no one psychological theory but followed the one which seemed to fit the case. Medical treatment to insure good physical condition was of first importance. The specific means used to influence the children's behavior included: explanation, praise, rewards, occasional suggestion, substitution of more desirable activity, dramatization and humor, neglect, deprivation, isolation, and at all times the authority of the persons in charge. Children in tantrums were impersonally carried from the room and isolated from the other children. Occasionally two children "were brought together to fight it out if peaceful methods failed and there seemed no alternative plan of settlement." This brief description does scant justice to the report. Drs. Bond and Appel have demonstrated that a properly planned and operated residential school is perhaps the best method of treating the behavior problem following encephalitis lethargica.

EPILEPSY

Epilepsy is a condition characterized by convulsive attacks and some degree of loss of consciousness. Modern authorities believe that while epilepsy presents a fairly definite syndrome, it cannot be considered as a specific disease entity. Lennox and Cobb (1928) suggest that "paroxysmal disorders" or "convulsive states" would be better terms

and that "epilepsy" could well be dropped. The clinical psychologist's interest in this condition is limited to aspects of behavioral adjustment.

Many conditions have been proposed as causes of epilepsy. Hereditary influences have been looked upon with favor by some, but, as in the case of all other attempts to attribute behavioral abnormalities to heredity, there is little or no decisive evidence. Clark (1918) has held that the epileptic has an innate personality pattern which predisposes him to attacks. At a later date (1926) this same author outlined a psychoanalytic interpretation of the seizures as an unconscious substitute for satisfactory environmental adjustment.

Macroscopic and microscopic pathology has been found in the brains of a large percentage of institutionalized epileptics. This evidence is equivocal because it is possible that such lesions as are found may be a result of the seizures rather than a cause of them. Disturbances of the physico-chemical relations of nervous tissue and the blood, of the endocrine system, of the acid-base equilibrium, of the autonomic nervous system, and of protein, carbohydrate and fat metabolism have all been demonstrated in epileptics and have been suggested as causative. Since further consideration of these matters would be beyond the scope of this work, we must refer the reader to the pertinent literature and especially to the excellent monographic review by Lennox and Cobb (1928).

The incidence of epilepsy is probably not very great, however, adequate data for determining it are not available. Among both whites and Negroes drafted into the United States Army during the World War the incidence of epileptics found was 5.1 cases per 1000. Davenport (1923) has gathered incidence figures from many countries; in no case do they exceed one per cent. In a survey by the New York City Board of Education (1930) an incidence of approximately one case per 1000 of the school population was found. The U. S. Bureau of the Census (1934), in an enumeration of patients in state institutions, reports a first-admission rate of 2.1 per 100,000 of the general population. While these figures are not comparable they do suggest that there are over two hundred times as many epileptics out of institutions as are in them.

The age incidence of epilepsy is of particular concern to us. Available evidence clearly indicates that the majority of cases start in childhood. In Table LXXXVI are combined figures from the Craig Colony (1926) and from Gowers (1901). The first part of this table shows the

TABLE LXXXVI—INCIDENCE OF EPILEPSY BY AGE

| Age | Number | Per Cent |
|--------------------------------------|--------|----------|
| <i>At onset (Craig Colony, 1926)</i> | | |
| 0-5 | 1830 | 27.7 |
| 5-10 | 1107 | 16.7 |
| 10-15 | 1190 | 18.0 |
| 15-20 | 892 | 12.0 |
| 20-25 | 389 | 5.8 |
| 25-30 | 220 | 3.3 |
| 30-35 | 142 | 2.1 |
| 35-40 | 110 | 1.8 |
| 40-45 | 83 | 1.2 |
| 45-50 | 43 | 0.6 |
| 50-60 | 51 | 0.7 |
| 60-70 | 16 | 0.2 |
| 70-90 | 2 | |
| Unknown | 520 | 8.0 |
| Total | 6595 | |
| <i>Groups (Gowers, 1901)</i> | | |
| Under 10 | 826 | 27.5 |
| 10-19 | 1398 | 46.5 |
| 20-29 | 463 | 15.5 |
| Over 30 | 315 | 10.5 |
| Total | 3002 | |

age of onset of epilepsy in 6595 patients admitted to the Craig Colony at Sonyea, N. Y., up to January 1, 1926. The second set of figures shows the age distribution of 3002 cases of epilepsy studied by Gowers. It is evident from these figures that epilepsy is very definitely a problem of childhood.

Symptomatology.—It is necessary, in describing the clinical picture of epilepsy, to distinguish five types: grand mal, petit mal, epileptic equivalents, Jacksonian epilepsy and hystero- or psychic epilepsy. The relative frequency of these various types (except the third) is shown in an analysis of 2000 cases made by L. P. Clark and reported by Starr (1909). These figures are given in Table LXXXVII.

Grand Mal.—The most severe type of attack is known as grand mal. While details of the picture vary a good deal from patient to patient, there are always tonic and clonic muscular spasms and loss of consciousness. In from one-third to one-half of all patients, according to Talbot (1930), a premonitory aura is observed. This may be motor, with twitchings, coughing, eye blinking, etc.; sensory, with visceral sensations, light flashes, sounds, tastes, smells, etc.; or mental, with sudden ideas and memories not connected with the immediate situa-

TABLE LXXXVII —FREQUENCY OF DIFFERENT TYPES OF EPILEPTIC ATTACKS

| Type | Number | Per Cent |
|------------------------------------|--------|----------|
| Grand mal | 1150 | 57 5 |
| Grand and petit mal | 589 | 29 4 |
| Petit mal | 179 | 8 95 |
| Jacksonian | 37 | 1 85 |
| Hysterio-epilepsy | 16 | 8 |
| Grand mal and Jacksonian | 10 | 5 |
| Grand and petit mal and Jacksonian | 8 | 4 |
| Grand mal and psychic | 3 | 15 |
| Grand and petit mal and psychic | 6 | 3 |
| Petit mal and psychic | 2 | 1 |
| Total | 2000 | |

tion, depressions, temperamental changes, etc Following the auræ in patients having them, and suddenly without warning in others, the patient loses consciousness and, usually with a cry or moan, falls to the ground in convulsions The first stage of the convulsion is a tonic spasm. There is extreme muscular rigidity, the tongue and cheeks may be bitten by contractions of the masseter muscles, pallor is succeeded by flushing, the pupils dilate and the patient becomes cyanotic This stage usually lasts less than thirty seconds or so When the cyanosis is intense a clonic stage begins in which there are violent movements of the legs, arms, head, jaws, and trunk. Contractions of the diaphragm forcibly expel air and cause grunts, coughing, and stertorous noises. Bladder and bowels may be evacuated The clonic stage may last from a few seconds to five minutes. After this extreme muscular exertion the patient goes into a stuporous stage from which he cannot be roused and which may last for hours. In some patients this stage is replaced by activity of an automatic sort, which sometimes becomes so extreme that it is spoken of as "epileptic frenzy." In this condition the patient may harm himself, other persons, or property. Exhaustion, fatigue, and headaches sometimes follow the attacks. After regaining consciousness the patient is completely amnesic for all that has happened, including the aura and the automatic acts or frenzy when these have occurred.

Patients sometimes pass from one grand mal attack to another without completely regaining consciousness This condition, known as *status epilepticus*, is very serious and should always have adequate medical attention.

Petit Mal.—As the name indicates, this is a mild type of attack.

There may be nothing more than an aura, or there may be a slight dizziness. The patient loses consciousness for a few seconds, his eyes may appear to be staring vacantly into space. Usually there are no motor signs, although tremors sometimes occur; only rarely does the patient fall. The attacks may occur during a conversation, a walk or any other activity. Such activity is stopped for the moment, but upon regaining consciousness the patient carries on without being aware that anything has happened.

Epileptic Equivalent.—This is a term given to the automatic acts and mental abnormalities occurring after an attack of grand and sometimes petit mal, or to such acts when they are apparently substituted for the more usual convulsion. They may consist in changes in the disposition, temper tantrums, destructiveness, intricate manual operations, taking long journeys, criminal activities, or homicidal attacks. These equivalent actions may continue for hours, days or weeks, and are terminated suddenly when the patient regains a consciousness of self. He is amnesic for the whole automatic period.

Jacksonian Epilepsy.—This condition, perhaps more properly called Jacksonian convulsions, is characterized by clonic spasms localized in a group of muscles. The muscle group may be within an arm, a leg, or the head region, or it may involve large segments up to one half of the body. In some cases the spasms may spread until the whole body is involved and consciousness is lost. Usually Jacksonian attacks indicate a rather definite neural lesion, but they sometimes are the forerunners of grand or petit mal attacks.

Hysterical Epilepsy.—In our previous discussion of hysteria we said that any human ailment might be simulated by hysteria. Epilepsy is no exception. The differential diagnosis is not too difficult if care is taken in observation. In an hysterical attack the physical signs such as pupil dilation, incontinence, or biting of tongue are absent; there is seldom loss of consciousness; the attack usually occurs in front of an audience, and the patient seldom if ever hurts himself in falling.

Psychological Characteristics.—The clinical psychologist is frequently called upon to examine epileptics, especially to determine abilities and personality characteristics. Caution must be used in giving intelligence tests to epileptics. For hours or even a day following an attack the patient may be disturbed or sluggish in reactions, and while he is in this condition his test performance may be seriously affected. Bisch (1925) points out that bromides have frequently been prescribed

for epileptics, and that if patients have been taking such drugs for a long period, or are taking them, their reactions are slowed up. This also may affect test performance. In certain timed tests the occurrence of a petit mal attack may give an entirely erroneous picture of a patient's performance. Therefore close attention must be paid to subjects who are known to have such attacks.

Intelligence—Bisch (1925) lists a number of mental effects of epilepsy, which may be shown by deterioration in adults or by interference with mental growth in children. Such effects include sluggishness in reactions, impaired attention and concentration, memory defects, and motor and emotional retardation.

Wallin (1921) reports an investigation made in 1911. A group of 30 "brightest pupils in the school" (New Jersey State Village for Epileptics) and a group of 76 normal school children were given a battery of tests. In Table LXXXVIII are reproduced the performances of these

TABLE LXXXVIII—COMPARATIVE PERFORMANCE OF EPILEPTICS AND NON-EPILEPTICS
(After Wallin)

| Task | Average Efficiency | | Comparative Epileptic Efficiency Per Cent |
|---|--------------------|-----------------------|--|
| | Normal Per Cent | Epileptic Per Cent | |
| Memorizing three-place digits | 41.6 | 25.9 | 62 |
| Retention of digits after one month | 10.0 | 2.5 | 25 |
| Spontaneous associations | 45.1 | 15.0 | 33 |
| Addition of ten one-place numbers | 14.7 | 4.2 | 28 |
| Antonym test | 39.1 | 5.9 | 15 |
| Quickness and accuracy of perception | 36.3 | 23.3 | 64 |
| Range of visual observation | 45.8 | 30.9 | 67 |
| Reproduction of objects after one month | 23.4 | 9.7 | 41 |
| Memory for logical word associates | 68.1 | 25.5 | 37 |
| Reproduction of logical word associates after one month | 21.1 | 7.6 | 34 |
| Recognition of pictures displayed 20 seconds | 59.7 | 19.6 | 33 |
| | No | No | Per Cent |
| Imagination test (ink blot) | 4.7 | 2.4 | 51 |
| Word construction | 9.1 | 2.7 | 29 |
| Sentence construction | 3.8 | .68 | 18 |
| Maximum number of circles drawn in 60 seconds | 97.1 | 77.6 | 80 |

two groups. The comparative efficiency of the epileptics ranged from 15 to 80 per cent of the normals. On the 1911 Binet-Simon scale the epileptics had an average M.A. of 10.1 years. The school children were

not tested, but Wallin assumed that their average M.A. would be equal to their average C.A. He also estimated that 63.3 per cent of the epileptic group were feeble-minded.

One serious criticism that can be made of the conclusion drawn from Wallin's study is that his epileptics were from an institution. As we have previously suggested, only a small proportion of all epileptics are in institutions; and it seems reasonable to believe that these are least able to care for themselves and might therefore be suspected of feeble-mindedness. Some support for this view comes from the figures of the U. S. Bureau of the Census (1934), which show 2553 first admissions of epileptics to state institutions in 1932. Of these, only 773, or 30.2 per cent, were not feeble-minded. Records from New York City schools show that less than 6 per cent of epileptic children in school or under home instruction are mentally deficient. It would appear that studies of intelligence in institutionalized epileptics may be very misleading.

Kanner (1935) found in a group of 100 cases of non-institutionalized epileptics the following percentages

| | I Q | Per Cent |
|-----------|-----|----------|
| Under 50 | | 17 |
| 51-70 | | 21 |
| 71-90 | | 37 |
| 91-110 | | 19 |
| Above 110 | | 6 |

These data also indicate a definite mental retardation, and Kanner says that this retardation is still true when these children are compared with all other children referred to his clinic for psychiatric consultation.

The meaning of these data is not clear. Of institutional cases, some 60 to 70 per cent are feeble-minded. In a group of clinic cases around 35 per cent could be so classed. Whether the percentage would be still lower if a large series of entirely unselected epileptic children were tested, we do not know. It may be possible that failure to take the precautions we have mentioned earlier in the examination of epileptic children may account in part for the low performance. This would appear to be a fruitful field of research.

Personality.—Clark (1918) says that the potentially epileptic individual is egocentric, supersensitive, and emotionally poor; he fails to project his interests outward into the environment in a normal healthy manner. While such characteristics may be commonly found in epi-

leptics, they are found also in many non-epileptic people and therefore they cannot be taken as diagnostic points

Fairly definite personality characteristics are frequently described in known epileptics. They are said to be irritable, subject to sudden changes in mood, stubborn, easily offended, often impulsive, conceited, inconsiderate, given to temper tantrums and fighting. Even this list does not exhaust the traits that have been enumerated. Kanner (1935) reports that 24 per cent of the epileptics seen in his clinic exhibited enuresis, and 43 per cent were subject to dramatic outbursts of anger. At least 15 per cent were reported to have voracious appetites. There can be no doubt that many epileptics do exhibit such characteristics, but whether they are a necessary part of the epileptic picture, or are compensatory behavioral resultants of the seizures or fear of seizures, is an open question. The latter would seem to be a reasonable hypothesis.

Clark, in works cited earlier, maintains the position that epileptic seizures are essentially overt expressions of excessive narcissism which produces an inflexibility of personality incompatible with the flux of life. Papurt (1931) tentatively formulated a non-psychoanalytic functional theory of epileptic seizures, and suggests that the physiological changes may be a result rather than the cause of the attacks. Such theories as these would make epilepsy a type of personality problem. While this possibility must always be considered, most clinical observers have been unable to find satisfactory evidence for it.

Educational and Vocational Adjustments—Apart from sub-normal mental ability or undesirable character traits, the epileptic may have difficulties in adapting to educational programs or occupational requirements. The ever-present threat of sudden, uncontrollable attacks limits the patient's possibilities. The attacks are disturbing to other people, and in certain types of occupations they may be dangerous. Therefore, special educational or vocational guidance must always consider the attacks as a primary factor.

Treatment.—The treatment of epilepsy is entirely a medical matter and it would be out of place for us to discuss it here. However, we shall call attention to the widely used dietetic therapy which is well described by Talbot (1930).

Education of epileptic children must take into account the low mental ability frequently found, as well as the inevitable interruption of the seizures. Shanahan (1913) feels, as a result of his observations of

the Craig Colony, that manual work should receive more attention than regular academic work, although the latter should not be neglected. According to the report of the Committee on Special Classes of the White House Conference (1931), special educational attention is being paid to epileptics in only a few systems, notably New York City, Chicago, and Detroit. In New York City if a child has an attack in school he is temporarily suspended for his own and others' safety. The case is reported and psychological and medical study and recommendations are made. If admitted to a hospital a special teacher attached to the institution undertakes the educational work; if the child is at home a special teacher may be assigned; if there is low mental ability the child may be recommended for institutionalization, or if the seizures are very infrequent he may be placed in a special class for subnormals.

Apart from recommendation for educational handling, the clinical psychologist is not concerned with the treatment of epileptics. However, as patients may have attacks during the psychological examination, it is well that he be prepared to deal with them. Three points must be remembered: (1) The patient is not at all likely to die in the attack; (2) there is no need for excitement; and (3) active measures should be directed toward keeping the patient from injuring himself or choking. Specific suggestions from Bisch (1925) are:

1. Move objects, or move the patient so that he will not injure himself while in the clonic stage.

2. Watch the tongue. Pry teeth apart with a piece of wood (finger may get bitten) to release it. If the patient has "swallowed his tongue" it must be got forward into the mouth so that he will not choke.

3. Lay the patient on his side so that he will not choke if he should vomit.

4. Frothing at the mouth has no vital significance.

5. Following the attack, put the patient in a comfortable position and let him sleep. If this is impossible, he may be aroused by slapping hands on cheeks or throwing cold water on the face.

OTHER NEUROLOGICAL DEFECTS

In addition to encephalitis and epilepsy there are a number of neural pathological conditions which may seriously interfere with the coordinating function of the central nervous system and thus affect the child's sensory and motor abilities. These are all problems of medicine

rather than psychology, but as they are occasionally referred to psychological clinics we must briefly mention them

Meningitis.—This is an infection of the membranes covering the brain and spinal cord. It may be caused by tubercular infection; it may follow almost any of the acute diseases of childhood, or it may be epidemic cerebrospinal meningitis caused by *meningococcus intracellularis*. The epidemic type is usually sudden in onset, with a few premonitory symptoms in the form of restlessness and mild headaches. Acute symptoms are violent headaches, fever and chills, vomiting, dizziness, stupor or coma, and sometimes convulsions. Tubercular meningitis is more insidious; the onset is gradual, early symptoms being loss of appetite, malaise, slight temperature and headache. As the disease progresses the symptoms become identical with those in the epidemic type.

The behavioral after-effects of meningitis are not at all clearly known. There are some indications that mental retardation may follow in some cases. If the infection invades the brain substance, giving rise to an encephalitis, there may be temperamental changes. Because of these possibilities it is necessary that as accurate a history of acute disease attacks be secured as is possible. Such a history should be gotten from the physician's or hospital's records if they are available.

Chorea.—The irregular, jerky movements that are called St. Vitus' dance may be symptoms of other neural diseases, or they may be symptomatic of an infectious disease condition known as Sydenham's chorea. This is largely a disease of early life, the majority of cases occurring between five and fifteen years of age, girls are more frequently affected than boys. The incidence increases in the spring and summer months. The duration of the disease may be as short as a few weeks or it may last a year; the average duration is two to three months. Prognosis is usually good, although some patients have recurrent attacks.

The disease is of psychological interest because its onset is gradual and parents or teachers complain of the child's behavior. At first he becomes restless and fidgety, with involuntary movements starting usually in one limb. He may be considered unruly. Gradually the involuntary movements spread; writing and other arm movements become clumsy and awkward; the legs fail to make adequate walking movements; there are facial grimaces and tongue jerking, and speech becomes dysarthric and explosive. The movements may become so

severe and violent that restraint is necessary. Occasionally, but much more rarely in children, there may be a toxic-infectious psychosis with depression, memory disturbances, hallucinations and delirium.

Because chorea and certain types of behavior problems are easily confused, medical and neurological consultation should be secured in every doubtful case. Rest and isolation are indicated in treatment, as well as certain medication.

Cerebral Palsies of Children.—This is the term given by Wechsler (1935) to a group of paralytic conditions known variously as Little's disease, cerebral diplegia, infantile cerebral paralysis, or infantile spastic hemiplegia. These paralyzes may be caused by development *in utero* (no hereditary or familial factors have been demonstrated); they may be due to premature, precipitate, difficult, prolonged or instrumental births, or to asphyxia neonatorum; or they may be post-natal or acquired by infection or more subtle influences. The underlying pathology is cerebral, with definite pyramidal tract involvement.

Symptoms are most evident in movement, especially of the legs. The thighs are adducted, the knees come together, and the child walks on his toes with a "scissors gait." The arms may also be involved, with adduction, flexion at the elbow and fingers, and pronation of the forearm. Cranial nerve involvement occurs, resulting in strabismus, speech defects, difficulty in swallowing, drooling, etc. Mental defect, sometimes of severe degree, is evident in many cases (see page 136).

Interference with motor performance, mental defect and possible personality disturbances are all of psychological significance. Doll, *et al.* (1932), have discussed the problems of mental deficiency associated with paralysis, but there is little or no experimental work on personality development of this group. Physiotherapy, occupational therapy and exercise have proved of value in the treatment of some cases. Fischel (1934) has described in excellent detail the treatment of her two boys who were victims of Little's disease.

Erb's Paralysis—This is a type of flaccid paralysis caused by injury to the brachial plexus and confined to one arm and shoulder. The injury may occur during birth (whence the term birth palsy) or accidentally at any time during life.

Infantile Paralysis or Acute Anterior Poliomyelitis.—This is an infectious, probably contagious disease, whose pathogenic organism is unknown, and which has a predilection for the nervous system and particularly the anterior horns of the spinal cord. There are sporadic

cases, but most frequently the disease is epidemic. There may be a prodromal period in which the disease is often taken to be a mild, general acute infection of little significance. This may last, if it occurs at all, for only a few hours or days at most. In fact, a child may go to bed feeling a little sick and be paralyzed in the morning.

The most important symptom is a flaccid paralysis, particularly of the legs or arms, although the back and hip and occasionally the abdominal muscles may be involved. On the other hand, single muscles or only parts of a single muscle may be affected. The maximum degree of paralysis is usually reached within twenty-four to forty-eight hours after onset. There is some spontaneous improvement with recession of the infection, but there is usually some residual paralysis. After a week or two the paralyzed muscles become atrophied. Continuous exercise at first, and, later, surgical interference and braces are usual methods of treatment. There is no evidence that mental abilities are affected in these patients, although there may be personality disturbances.

MALNUTRITION

Malnutrition by derivation means bad or imperfect nutrition, but it is more frequently thought of today as being undernutrition. Some consider malnutrition as a definite illness, while others regard it only as a symptom. Emerson (1922) believes that it is a clinical entity with characteristic history, definite symptoms and pathological signs. He feels that its presence is unmistakable evidence that a child is not developing normally, and that the malnourished child is a sick child and should be so considered. On the other hand, some authors believe that malnutrition is not a disease condition in itself, but is merely a symptom which may result from any one of many diseases, social conditions, poor hygiene, or all combined. Others define it as a low condition of health and body substance rather than a definite disease. Perhaps all do not agree that a malnourished child is necessarily a sick child in the usual connotation of the phrase, but everyone will certainly agree with what Emerson doubtless means to stress, i.e., the malnourished child is in real need of attention.

Nutritional condition is obviously not a psychological problem. However, it is equally evident that the child who is undernourished and therefore in poor physical condition will probably be more or less severely limited in the adequacy of his behavioral adaptations. It is,

therefore, necessary for the clinical psychologist to have some familiarity with the condition and with the little that is known regarding its psychological significance.

Prevalence—Malnutrition is probably the most widespread physical disorder of children. Roberts (1935) lists thirty-five surveys of nutritional condition in school children which together include over 500,000 cases. These reports are dated from 1905 to 1932 and a number of different standards for judging have been used. Thirty-four of the more recent studies in which the judgments were based upon height-weight tables ranged in incidence of malnutrition from 12 to 55.7 per cent, with the median at approximately 28 per cent. The estimate most frequently made, that from one-quarter to one-third of school children are malnourished, is adequately supported by these data.

One of the chief reasons for the variation in the incidences found in different surveys is the variant diagnostic criteria. A number of grading schemes have been proposed, of which the Dunfermline scale is the best known. This scale was devised by McKenzie (1914) and specifies four classes of nutritional condition:

1. Excellent. A healthy child from a high type of home, his nutritional condition is not merely the best in his group, but is superior by any standards.
2. Good. Those children whose nutritional condition falls short of excellent. Usually considered the average or normal.
3. Poor. Children who require dietary supervision.
4. Very poor. Children whose nutritional condition is so poor that they require medical attention.

This useful scale is open to some objections. If properly used, the standards are general rather than relative to the group of which the child is a member. However, as Richardson (1927) reports, some physicians fail to use it in this way; instead, from long acquaintance with certain racial or geographic groups, they grade children on the basis of the group standards.

Because of their greater objectivity, deviations from height-weight-age norms have found wide favor as criteria of malnutrition. In this country the Baldwin-Wood table (table, page 18) is usually considered the standard. The most widely used deviation to demonstrate malnutrition is ten per cent below the height-weight-age norm, but some

physicians prefer the stricter seven per cent limit Emerson (1922) proposed the following, now widely used, classification:

1. Malnourished Seven per cent or more below average weight for height
2. Border-line Under average, but less than seven per cent
3. Average to twenty per cent above, ten per cent above being considered optimal.
4. Overweight. Twenty per cent or more above average.

While a subjective factor may enter the physician's diagnosis of malnutrition, there are also dangers in adhering too strictly to the height-weight-age standards. Thus, Dublin and Gebhart (1924) have shown that the standard tables were not at all suitable when used in a study of 4047 Italian children in New York City. An even more serious criticism lies in the data of Clark, *et al* (1924), on nearly 10,000 native-born white children six to sixteen years of age. In this study 51.8 per cent of the children diagnosed as malnourished in a careful medical examination by trained physicians were classed as well nourished by the ten-per-cent-below-average standard. Conversely, 19.3 per cent of those classed as satisfactory by the physicians were below the ten per cent standard. Clark concludes that while on the average the poorly nourished child weighs less than the well nourished, still, "in order to pick out individual cases of poor nutrition, a physical examination by a trained physician should supplement physical measurement."

The physical diagnosis of malnutrition is a medical problem which we cannot enter into. We shall, however, present brief contrasting physical descriptions of a well-nourished and a poorly nourished child.

A well-nourished child has a well-developed body, with firm muscles, good skin turgor, sufficient subcutaneous fat to form a moderate padding over his bones and muscles. He has a healthy glow to the skin, smooth glossy hair. His eyes are clear and bright, there are no dark circles underneath them, and his usual facial expression is bright and unworried. The posture is generally good, with head erect, chest up, abdomen not protruding, and step elastic. In disposition he is usually happy and good-natured and is full of life and activity. His sleep is sound, and his digestion good.

Turning to the extreme opposite picture, we find that a malnourished child lacks several or all of the characteristics of the normal

child, depending on the degree of malnutrition. He is usually thin, but may be fat and flabby instead. His skin may be pale, delicate and wax-like, or sallow, muddy, even pasty or earthy in appearance. The hair may be rough, the tongue coated. His skin may seem loose and his muscle underdeveloped. Because of a lack of muscular tone the shoulders are usually rounded, sometimes protruding to such an extent as to produce the deformity known as "wings." His chest is flat and narrow, the abdomen protrudes, the arches may be pronated or flat, and his whole attitude is one of drooping fatigue. In one type of malnourished child, the animal spirits natural to all healthy young will be found lacking. Such a child is apt to be listless in play and will probably be regarded as lazy. There is, however, the other type, the hyper-irritable, overactive, highly strung child who is constantly on the go, but who tires easily and lacks both physical and mental endurance. Often the malnourished child sleeps lightly and is finicky about his food.

Causes.—In a broad sense, malnutrition may be described as a state in which either the food intake is inadequate in some respect to meet the body needs, or physiological and environmental conditions are such that the body is unable to utilize the food material to provide for its proper growth, maintenance and repair. Such a deficiency will be most liable to occur in youth, when the demands for calories to meet the high basal metabolism and muscular activity and for building materials to cover growth needs are proportionally greater than in adult life. It should also be recognized that there may be many grades of malnutrition and that it may be brought in many different ways.

Richardson (1927) classifies the specific causes of malnutrition into five groups: faulty health habits, faulty food habits, family strain, school strain, and physical defects or disease. This convenient classification is not meant to imply that the groups do not overlap to an appreciable extent. For example, faulty health habits frequently reflect the home conditions, or coincide with faulty food habits. Of these five major groups, the first and last are mainly physical, the other three might well be considered as psychological causes of malnutrition.

Faulty health habits include the fatiguing strain of adult activities, such as movies or parties, to which children are subjected, lack of sleep, lack of fresh air, lack of play or exercise; in contrast, overexertion in the never-still, strenuously playing child is often a factor. Organic diseases and defects that are associated with malnutrition—

whether in a cause or effect relationship is sometimes difficult to say—include infected tonsils or adenoids, carious teeth, poor posture, infections like syphilis and tuberculosis, cardiac disease, diabetes, hookworm, etc. The detection and treatment of these conditions are medical problems which must be adequately dealt with before psychological problems can be considered.

We shall change the classification "faulty food habits" to the more comprehensive "faulty diet" for our present discussion. Inadequate food in quantity or kind because of poverty or ignorance is not unknown as a cause of undernutrition. It is doubtful, however, if this lack, unassociated with any of the other causes mentioned, is frequently the prime etiologic factor. Wood (1920), in a nutrition survey of 10,000 Chicago school children, found malnutrition (seven per cent standard) in 16.2 per cent of children from stockyard district schools, but in 5.7 per cent of children from well-to-do districts. These data suggest what is probably a much more significant reason for inadequate diet, i.e., poor eating habits. As this subject has been discussed at length in Chapter IX, we shall not reconsider it here. However, it is necessary to point out that poor appetite and poor eating habits are frequently psychological problems, and therefore the psychologist is interested in the etiology of malnutrition.

In the remaining two groups of causes of malnutrition, viz., family and school strain, psychological factors are also of primary importance. In the family, disharmony and unhygienic living give rise to emotional and physical strain that may result in lack of adequate food. Excessive school work—especially home work, which is all too often made "busy work"—is physically exhaustive and frequently interferes seriously with the child's opportunity to secure the all-necessary fresh air and play. While there can be no doubt that malnutrition is a medical problem, there is sufficient evidence that psychological factors of many kinds play important parts in its etiology. Therefore, the treatment of malnutrition may frequently involve consideration of the psychological factors in the family, the school, or the child in much the same way as they had to be considered in primary behavior problems.

Mental Effects of Malnutrition.—In addition to psychological factors in the etiology of malnutrition we are also concerned with what we may call psychological effects of the condition. The relationship between nutrition and mental development can be seen in its simplest

form in infancy. The baby who is well nourished crawls and laughs, he eats, sleeps and takes interest in the life about him. The poorly nourished infant is fretful, irritable, nervous, his sleep is disturbed and everyone associated with him suffers because of his condition. Such a child is usually considered sick and is treated accordingly. He needs psychological treatment in the way of training and control, but this is futile without normal nutrition.

Unless this malnutrition is promptly corrected, further mental effects appear as the child grows older. Instead of a natural reaching out into various forms of activity that are essential to his well-being, there appear an attitude of defense and a desire to be let alone which are fatal to normal social relationships. The child's interests are narrowed and his whole attitude becomes negative. Unfortunate personality traits develop, such as self-centeredness, shyness, lack of confidence, selfishness, jealousy, fearfulness, depression, daydreaming and unusual attachments. As the sentiments and emotions develop, the situation grows more and more complex. It is difficult to separate cause and effect and to say how much the child's physical condition affects his behavior or to what degree his mental condition affects his body.

The relation between intelligence and nutritional status has been extensively investigated. As Paterson (1930) and Roberts (1935) have both written excellent résumés of this literature, we need not discuss it here. It is sufficient to point out that correlations between intelligence and such measures as height, weight, and indices based upon these, are uniformly low—usually of the order of .10. In terms of group contrasts, it is found that mentally subnormal groups are physically inferior, and mentally supernormal groups are physically superior, to mentally normal groups.

A few studies of the intelligence test performance of malnourished children have been made. Hunt, Johnson, and Lincoln (1921) found in a small group of children that the undernourished distributed themselves in test performance similarly to children of normal height-weight-age index. Dowd (1922) compared 55 children from a nutrition clinic with 55 controls from the general clinic on the basis of Binet I.Q. and obtained results which were essentially the same as in the preceding study.

The effect of improved nutritional status on test performance has been reported a few times, but the results are conflicting. Lutz (1923) reports a rise in I.Q. from 93 to 107 in a fifteen-year-old boy after his

nutrition and his physical condition were restored to normal. De Weerd (1928) and Teagarden (1927) report on one and two cases, respectively. The former was a seven-and-a-half-year-old boy with an IQ of 116 who was badly adjusted in school. After improvement in home conditions his school adjustment improved but his IQ did not change. Teagarden's two cases had IQ's of 73 and 77 at entrance to Mooseheart. With improvement in physical condition while in the institution there was improvement in their general behavioral skills but not in their IQ's. A significant study of the effects of severe malnutrition was made by Blanton (1919) on children in post-war Germany. The study covered 65,500 German school children in Trier who were referred because the teachers had complained that there seemed to be mental deterioration and an increase in nervous disorders. These children had been on a limited, inadequate diet for about three and a half years. The findings may be briefly summarized. Physical energy was lacking in these children; they were easily fatigued and strenuous games had to be avoided. Nervousness, shown by restlessness, was extremely prevalent—teachers complained that they could not hold the attention of the pupils for more than five minutes or so. The children were reported to have less ability for mental tasks, poor memories, inability to concentrate, slow comprehension, etc. The percentage of grade failures before the war was about eight; at the time of the study it had risen to about fifteen. There was no question that the overt, observable behavior of these children was inferior. However, there was no evident inferiority in test performance when the tests were given during short periods in the mornings when the subjects were fresh. Blanton concludes that even such severe undernourishment as he encountered did not impair intelligence, but it did reduce physical energy and therefore adequacy of general behavior. "Malnutrition of such a severe degree usually leaves some permanent damage. In the case of children of inferior intelligence malnutrition causes a general lowering of the normal intelligence level."

Overweight Children—While malnutrition is usually thought of as meaning undernutrition, the overweight child might logically be considered as malnourished. Of course, many if not most obese children are suffering from endocrinopathies and are not primarily nutritional problems. Psychological studies of overweight children appear to be entirely lacking, except for McHale's (1926) pioneer experiments. This investigator compared three groups of 104 eleven-year-old boys

and girls (52 of each sex) one group was eight or more per cent below the height-weight-age norm, the second group was within plus and minus five per cent, and the third group was fifteen per cent or more above. These groups were given a battery of tests, the results from which we can only briefly summarize. Mean Binet M.A.'s were 11.82 for the under-, 11.66 for the normal, and 12.32 for the overweight groups. The difference between the over- and normal weight mean was 3.3 times its P.E. In educational achievement the overweight group was consistently, although not always significantly, superior to the other two groups. Emotional stability was studied by means of the Woodworth-Matthews Questionnaire. Overweight boys and girls had the greatest tendency to fears and worries, and overweight and underweight girls were most unhappy. The underweight group had the greatest inclination to pains, weariness, and other physical symptoms, and to dreams, phantasies, and sleep disturbances. In view of the small number of cases in each sex-weight group and the relatively small number of statistically significant differences between the groups, the final conclusion of this study seems to be that "overweight children are not very different from other children." While this conclusion is probably true of overweight children as a group, there can be no doubt that individual obese children may have behavioral difficulties. Overweight may affect the behavior of the child because the excessive weight may bar him from active and successful participation in many games and activities of child life. Many times the overweight boy or girl is constantly reminded by his playmates of his size by ridicule or by nicknames like Fatty or Piggy. Often this reflects in the child's behavior: he may develop many unwholesome character traits such as an attitude of defense or shyness, an inferiority feeling, fearfulness and depression. And so it might be said that a fat boy is set aside from his fellows in a hundred apparently trivial, but in reality cruelly poignant, ways.

OTHER SIGNIFICANT PHYSICAL DISABILITIES

Any chronic organic defect, disease or disability has a possible significance in behavioral development. Acute disease conditions may have behavior sequels, as, for example, following encephalitis, or unacceptable behavior patterns may develop as a result of unwise handling during convalescence. But for our discussion here we are concerned only with chronic conditions. The diagnosis and treatment for all of

these disabilities are entirely medical so that we can do no more than briefly mention some of the commoner of them

Tuberculosis.—This disease is the result of infection by one or more of the several varieties of the tubercle bacillus. Pulmonary tuberculosis is probably most common, but the infectious process may attack any part of the body. Kerr (1927) says that, after starting to school, the infected child may show signs of ill health that he has not shown before. He does not play, he is less active, he becomes irritable, his sleep is disturbed, he is "nervous" and easily fatigued. This behavior picture may clear up shortly or it may continue for a long time. Meningitis may be caused by a tubercular infection of the meninges, and crippling deformities may be the result of bone infections. Myers (1932) presents a table summarizing a number of studies of incidence of tubercular reactions in children. There appears to be agreement that the incidence increases with age, in the first few years of life the percentages reported are usually less than five, whereas in early adolescence they range from 30 or 40 to as high as 90.

Cardiac Conditions.—The generic term cardiac conditions includes any kind of heart disease or deformity. Wood and Rowell (1927) say that about two per cent of New York City School children suffer from some form of cardiac disease. The causes of heart trouble include congenital defects, rheumatism, infections, etc. Heart disease is of importance to behavior because, to quote Wood and Rowell (1927) speaking of such cases, "A few of these have an exceedingly good prognosis but the majority must look forward to a life of limitations, often restricted almost to uselessness, a burden alike to their families and themselves." Also, it must not be forgotten that parental concern over suspected or imagined heart trouble may foster fears and hypochondriacal trends.

Dental Caries.—Caries teeth are extremely prevalent among children. Roberts (1935) summarizes a number of studies of the incidence of dental caries, in some of which as high as 95 per cent of the children examined had one or more carious teeth. Tooth decay may be the basis of severe pain which temporarily interferes with behavior; furthermore, the decayed teeth may become foci of infection, and interfere with adequate mastication of food. Both of these will reduce the general physical well-being of the child.

Diseases and Defects of the Nasopharynx.—Under this heading may be included the common cold, catarrhal conditions, tonsillitis and chronically infected tonsils, enlarged and infected adenoid tissue, etc.

All of the acute infections mentioned result in loss of time from school and a reduction in attention and application while in school. Enlarged adenoids interfere with respiration and may affect speech. Chronically infected tonsils are foci of infection, the toxins from which reduce physical efficiency.

Crippling Deformities—Reeves (1914) quotes the following definition of a cripple used by an education committee in Birmingham, England "A person whose (muscular) movements are so far restricted by accident or disease as to affect his capacity for self-support." This is the most common non-medical definition of orthopedic deformation. Specific defects or diseases to be included are paralysis, club-foot, congenital dislocated hip, tuberculosis of bone, osteomyelitis, rachitic deformities, spinal curvatures, amputations, etc. Abt (1924) gives data from a number of surveys of the causes of crippling which may be summarized as follows:

| | Per Cent |
|------------------------|----------|
| Poliomyelitis | 30 |
| Tuberculosis | 25 |
| Congenital deformities | 13 |
| Trauma | 4 |
| Rachitic | 6 |
| Osteomyelitis | 4 |
| Other conditions | 17 |

The reported prevalence of crippled children in the general population varies widely with the criteria used in enumeration. A White House Conference (1931) report summarizes the ratios found in several surveys. These ratios vary from a minimum of 0.91 per thousand of the general population in cities in New York State with populations from thirty to one hundred thousand, to a maximum of 9.79 per thousand in New Jersey cities of the same class. The incidence per thousand school population under eighteen years of age varied from 2.96 to 16.67. From other data given in this report and from the comments made, it seems that not more than two per cent, and possibly only one per cent, of school children are in need of special educational treatment because of orthopedic defects.

Our interest in the crippled child is particularly concerned with his intelligence, personality development and education. Nilson (1933) compared 169 disabled pupils with 2590 not-disabled on a five-point scale of intelligence, and concluded that the crippled showed no significant inferiority. Under the White House Conference (1931) Committee, crippled children in four cities were examined with group

tests. The distribution of scores of 1919 children which are shown in Table LXXXIX, compares favorably with the distributions of intelli-

TABLE LXXXIX—I Q DISTRIBUTION OF CRIPPLED CHILDREN

| I Q | Number | Per Cent |
|--------------|--------|----------|
| 50- 69 | 135 | 7 0 |
| 70- 79 | 319 | 16 0 |
| 80- 89 | 330 | 17 1 |
| 90-109 | 661 | 35 1 |
| 110-125 | 427 | 22 6 |
| 126 and over | 47 | 1 9 |

gence usually found in school children. A similar absence of inferior performance was found in a small number of crippled children (about 125) examined by J W Carter, Jr., and the writer at the James Whitcomb Riley Hospital

As a result of the limitations on activity imposed by his deformity, we might expect personality warping in the crippled child. While available evidence is limited, it appears that individual variations, rather than the fact of being crippled, are of greater importance in this connection. Bartös (1932) believes that the attitudes of those about the crippled child influence his emotional life and therefore careful education will overcome possible ill effects. From a questionnaire study of 23 cripples, Diesdner (1933), found little evidence of warped development.

Because of the apparent absence of a characteristic mental inferiority in crippled children, the educational problem is quite different from that presented by subnormals. Attention must be directed toward suitable mechanical arrangements, e g, seats and desks, stairways, etc., and toward a daily program that allows for possible fatigue and for individual work. As in many cases occupational opportunities may be limited, it is advisable that vocational needs be used as important guides in planning educational programs.

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